Beyond the Basics: Effective Reading Programs for the Upper Elementary Grades

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Abstract

This article systematically reviews research on the achievement outcomes of three types of classroom approaches to improving the reading achievement of students in grades 2-5: Reading curricula, computer-assisted instruction (CAI), and instructional process programs. Study inclusion criteria included use of randomized or matched control groups, study duration of at least 12 weeks, and use of valid achievement measures that were independent of the experimental treatments. A total of 80 studies met these criteria. The review concludes that programs designed to change daily teaching practices have greater research support than those that focus on curriculum or technology alone. In particular, positive achievement effects were found for cooperative learning programs and for same-age and cross-age tutoring programs. The effective approaches provided extensive professional development intended to significantly affect teaching practices. In contrast, studies of reading textbooks and of computer-assisted instruction found small effects on reading outcomes.

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From second to fifth grade, children go through a critical transformation as readers. Most beginning second graders are able to decode, to recognize key sight words, to comprehend simple texts, and to read with some degree of fluency. The tasks that lay ahead of them, however, are qualitatively different from those they have navigated so far. They must consolidate and extend their basic skills, to be sure, and they must become fluent, confident readers. But most importantly, children in the upper elementary grades must become strategic comprehenders of increasingly sophisticated text. They must build a vocabulary of words and concepts as well as a vocabulary of cognitive and metacognitive approaches to texts. While decoding skills may develop in a fairly step-by-step progression, the skills mastered in the upper elementary grades emerge as children read in many genres and learn how to make sense of what they read, a less straightforward process. Early decoding success is a key predictor of success in the upper elementary grades and beyond (e.g., Juel, 1988), yet there are many children who are successful decoders but poor comprehenders. Stage theorists (e.g., Chall, 1983) point out that the upper elementary years are when children transition from "learning to read" to "reading to learn." This period is also distinct from the middle grades, when reading instruction is not typically taught as a separate subject but is subsumed in English or language arts.

Because of the different objectives and requirements of the upper elementary grades, programs that are effective in building beginning reading skills are not necessarily optimal in the upper elementary grades, and vice versa. For this reason, in reviewing research on effective reading programs, it seems important to review programs at each of these levels separately. The present review is a companion to reviews of research on beginning reading (Slavin, Lake,

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Chambers, Cheung, & Davis, 2009a), remedial and preventive programs (Slavin, Lake, Madden, & Chambers, 2009b), and middle and high school reading (Slavin, Cheung, Groff, & Lake, 2008). The present review focuses on studies of non-remedial classroom reading approaches that begin in grades 2-5.

Current Issues in Upper-Elementary Reading

In recent years, reading in the upper elementary grades has taken on particular centrality because of the growing importance of test-based accountability. In the U.S., state accountability systems have long emphasized performance in grades 3-5 as the indicator of elementary school success, and in 2001, No Child Left Behind heightened this emphasis, requiring testing of reading and math in every grade from three to eight, and adding sanctions for schools not making adequate yearly progress. In England, Key Stage 2 assessments in reading and math in Year 6 (age 11) are the main indicators of primary school success. In international comparisons, upper elementary reading is also emphasized; the PIRLS study (Progress in International Reading Literacy; Baer et al., 2007), for example, involves fourth and eighth grade tests. PIRLS assessments found U.S. students reading less well than those in some countries, such as Canada, Russia, Hungary, Italy, and Sweden, but better than others, such as New Zealand, Scotland, France, and Poland.

The National Assessment of Educational Progress (NCES, 2007) in the U.S. has shown improvements in fourth-grade reading in recent years, with a particular across-the-board improvement on the 2002 assessment. Yet there is still a long way to go. Among White fourth graders, 43% achieve at the "proficient" level or better, but only 14% of African American, 17%

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of Hispanic, and 18% of American Indian children score at this level. Although the racial gap has diminished somewhat over time, it remains one of the most important problems in our education system. Effective reading programs are needed for all children, of course, but having available effective and replicable tools is of particular importance for disadvantaged and minority children who particularly depend on the school to achieve success.

Despite the obvious importance of upper-elementary reading for policy and practice, there has never been a review of research on effective programs at this grade level. The federal What Works Clearinghouse (2009) has created a topic report on beginning reading programs, and this synthesis included studies with students up to third grade. However, the WWC excluded studies that included grades above 3 if they did not analyze data separately for grades above and below third grade, and this excluded many upper-elementary studies that included grades 2-4, 3-5, and so on. At this writing, the WWC does not have an upper-elementary reading review in its plans. Deshler, Palincsar, Biancarosa, & Nair (2007) published a major "research-based guide to instructional programs and practices" for struggling adolescent readers. It contains brief discussions of the research evidence supporting each of 48 widely-used programs, as well as lists of articles for each, and many of the articles reported studies of grades 3-6. Yet Deshler et al. (2007) did not attempt to synthesize or compare the evidence bases for the programs at any grade levels.

The purpose of the present article is to review research on upper-elementary classroom reading programs, applying consistent methodological standards to the research. It is intended both to provide fair comparisons among achievement effects of the full range of approaches available to educators and public policy makers, and to summarize for researchers the current

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state of the art in this area. The scope of the review includes all types of classroom-based programs that teachers, principals, or superintendents might consider as a means to improve the reading achievement of their upper-elementary students: curricula, computer-assisted instruction, instructional process programs, and combinations of reading curricula and instructional process approaches.

The review uses a form of best evidence synthesis (Slavin, 1986), adapted for use in reviewing "what works" literatures in which there are generally few studies evaluating each of many programs (see Slavin, 2008). Similar methods have been used previously to review research on middle and high school reading programs (Slavin, Cheung, Groff, & Lake, 2008), elementary mathematics programs (Slavin & Lake, 2008), middle and high school mathematics programs (Slavin, Lake, & Groff, 2009c), and reading programs for English language learners (Cheung & Slavin, 2005).

The synthesis of middle and high school reading programs by Slavin et al. (2008) provides background for the present article. A total of 36 studies met the same criteria applied in the present review (see below). The secondary review concluded that programs designed to change daily teaching practices, which provide extensive professional development in specific classroom strategies, had substantially greater support from rigorous randomized and matched experiments than did programs focusing on curriculum or technology alone. No studies of commercially published reading curricula met the inclusion criteria, and the sample size-weighted mean effect size for computer-assisted instruction programs was only +0.10. In contrast, the sample size-weighted mean effect size for various forms of cooperative learning was +0.28. Studies of mixed method programs (especially *READ 180*), which combine extensive

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teacher training and cooperative learning with computer activities, also had relatively positive weighted effect sizes (ES=+0.23).

The Cheung & Slavin (2005) review of research on (mostly elementary) studies of reading programs for ELLs also found that effective programs were ones that emphasized professional development and changed classroom practices, such as cooperative learning and comprehensive school reform. Based on the findings of the earlier reviews, we hypothesized that in upper elementary reading, programs focusing on reforming daily instruction would have stronger impacts on student achievement than would programs focusing on innovative textbooks or computer-assisted instruction alone.

Focus of the Current Review

The present review uses procedures similar to those used in the secondary reading review to examine research on reading programs for the upper elementary grades, 2-5 (sixth graders also appear in the current review if they were in elementary schools). The purpose of the review is to place all types of programs intended to enhance the reading achievement of upper elementary students on a common scale, to provide educators and policy makers with meaningful, unbiased information that they can use to select programs most likely to make a difference with their students. The review emphasizes practical programs that are or could be used at scale. It therefore emphasizes large studies done over significant time periods that used standard measures, to maximize the usefulness of the review to educators. The review also seeks to identify common characteristics of programs likely to make a difference in student reading achievement. This synthesis was intended to include all kinds of approaches to reading

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instruction, and groups them in three categories: reading curricula, computer-assisted instruction, and instructional process programs. *Reading curricula* primarily encompass core reading textbooks and curricula, such as Scott Foresman's *Reading Street,* as well as supplementary texts such as Scholastic's *Fluency Formula. Computer-assisted instruction* (CAI) refers to programs that use technology to enhance reading achievement. CAI programs are usually supplementary, as when students are sent to computer labs for additional practice. A related category is computer-managed instruction, represented in the review by *Accelerated Reader*, which uses computers to assign readings and assess progress. CAI is the one category of upper-elementary reading programs that has been extensively reviewed in the past, by Kulik (2003), Murphy et al. (2002), and Chambers (2003). *Instructional process programs* are the most diverse. All programs in this category rely primarily on professional development to give teachers effective strategies for teaching reading. These include programs focusing on cooperative learning, classroom motivation and management, and metacognitive strategies. Examples include *Cooperative Integrated Reading and Composition (CIRC), Peer-Assisted Learning Strategies (PALS), Exemplary Center for Reading Instruction (ECRI),* and *Consistency Management-Cooperative Discipline (CMCD)*. Comprehensive school reform (CSR) programs were reviewed only if they included specific reading programs; for a broader review of outcomes of elementary CSR models, see CSRQ (2006) and Borman et al. (2003).

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Review Methods

The review methods are similar to those used by Slavin et al. (2008, 2009a), who adapted a technique called best evidence synthesis (Slavin, 1986, 2008). Best-evidence syntheses seek to apply consistent, well-justified standards to identify unbiased, meaningful information from experimental studies, discussing each study in some detail, and pooling effect sizes across studies in substantively justified categories. The method is very similar to meta-analysis (Cooper, 1998; Lipsey & Wilson, 2001), adding an emphasis on narrative description of each study's contribution and limiting the review to studies meeting the established criteria. It is also very similar to the methods used by the What Works Clearinghouse (2009), with a few important exceptions noted in the following sections. See Slavin (2008) for an extended discussion and rationale for the procedures used in all of these reviews.

Literature Search Procedures

A broad literature search was carried out in an attempt to locate every study that could possibly meet the inclusion requirements. Electronic searches were made of educational databases (JSTOR, ERIC, EBSCO, Psych INFO, Dissertation Abstracts) using different combinations of key words (for example, "elementary students", and "reading achievement") and the years 1970-2007. Results were then narrowed by subject area (for example, "reading intervention," "educational software," "academic achievement," "instructional strategies"). In addition to looking for studies by key terms and subject area, we conducted searches by program name. Web-based repositories and education publishers' websites were also examined. We attempted to contact producers and developers of reading programs to check whether they knew

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of studies that we had missed. Citations from other reviews of reading programs (e.g., Deshler et al., 2007) or potentially related topics such as technology (Chambers, 2003; Kulik, 2003; Murphy et al., 2002) were further investigated. We also conducted searches of recent tables of contents of key journals. We searched the following tables of contents from 2000 to 2009: *American Educational Research Journal, Reading Research Quarterly, Journal of Educational Research, Journal of Educational Psychology,* and *Reading and Writing Quarterly.* Citations of studies appearing in the studies found in the first wave were also followed up. Studies meeting the selection criteria were included if they were published from 1970 to the present. Studies that met an initial screen for germaneness (e.g., they involved upper-elementary reading) and basic methodological characteristics (e.g., they had a control group and a duration of at least 12 weeks) were then read by at least two of the present authors, always including the first and second author. Any disagreements in coding were resolved by discussion and by seeking advice from other authors.

Effect Sizes

In general, effect sizes were computed as the difference between experimental and control individual student posttests after adjustment for pretests and other covariates, divided by the unadjusted posttest control group standard deviation. If the control group SD was not available, a pooled SD was used. Procedures described by Lipsey & Wilson (2001) and Sedlmeier & Gigerenzor (1989) were used to estimate effect sizes when unadjusted standard deviations were not available, as when the only standard deviation presented was already adjusted for covariates or when only gain score SD's were available. If pretest and posttest

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means and SD's were presented but adjusted means were not, effect sizes for pretests were subtracted from effect sizes for posttests.

Effect sizes were pooled across studies for each program and for various categories of programs. This pooling used means weighted by the final sample sizes, computed as twice the smaller of the experimental or control number of students. The reason for using weighted means is to recognize the greater strength, stability, and external validity of large studies, as the previous reviews and many others have found that small studies tend to overstate effect sizes (see Rothstein, Sutton, & Borenstein, 2005; Slavin, 2008; Slavin & Smith, in press). A cap weight of 2500 students was used to avoid having very large studies dominate the pooled means.

Criteria for Inclusion

Criteria for inclusion of studies in this review were as follows.

1. The studies evaluated programs for upper elementary reading. Studies of variables, such as use of ability grouping, block scheduling, or single-sex classrooms, were not reviewed.
2. The studies involved approaches that began when children were in grades 2-5, plus sixth graders if they were in elementary schools. Multi-year interventions that began in kindergarten or first grade are reviewed in a companion review of beginning reading programs (Slavin et al., 2009a), even if the children were in grades 2-5 by the end of the study.
3. The studies evaluated reading programs intended for all children. Remedial, preventive, and special education programs will be reviewed in a separate synthesis (Slavin et al., 2009b).

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4. The studies compared children taught in classes using a given reading program with those in control classes using an alternative program or standard methods.
5. Studies could have taken place in any country, but the report had to be available in English.
6. Random assignment or matching with appropriate adjustments for any pretest differences (e.g., analyses of covariance) had to be used. Studies without control groups, such as pre-post comparisons and comparisons to "expected" scores, were excluded.
7. Pretest data had to be provided, unless studies used random assignment of at least 30 units (individuals, classes, or schools) and there were no indications of initial inequality. Studies with pretest differences of more than 50% of a standard deviation were excluded because, even with analyses of covariance, large pretest differences cannot be adequately controlled for as underlying distributions may be fundamentally different (Shadish, Cook, & Campbell, 2002).
8. The dependent measures included quantitative measures of reading performance, such as standardized reading measures. Experimenter-made measures were accepted if they were comprehensive measures of reading, which would be fair to the control groups, but measures of reading objectives inherent to the program (but unlikely to be emphasized in control groups) were excluded. Studies using measures inherent to treatments, such as those made by the experimenter or program developer, or measures of skills taught only in the treatment group, have been found to be associated with much larger effect sizes than are measures that are independent of treatments (Slavin & Madden, 2008), and for this reason, effect sizes from treatment-inherent measures were excluded. The exclusion

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of measures inherent to the experimental treatment is a key difference between the procedures used in the present review and those used by the What Works Clearinghouse.

9. A minimum study duration of 12 weeks was required. This requirement was introduced to focus the review on practical programs intended for use for the whole year, rather than brief investigations. Brief studies may not allow programs to show their full effect. On the other hand, brief studies often advantage experimental groups that focus on a particular set of objectives during a limited time period while control groups spread that topic over a longer period. Studies with brief treatment durations that measured outcomes over periods of more than 12 weeks after implementation began were included, however, on the basis that if a brief treatment has lasting effects, it should be of interest to educators. The 12-week criterion has been consistently used in all of the systematic reviews done previously by the current authors (i.e., Cheung & Slavin, 2005; Slavin & Lake, 2008; Slavin et al., in press). This is another key difference between the procedures of the current review and those of the What Works Clearinghouse (2009) beginning reading topic report, which included studies with as few as five hours of instruction.
10. Studies had to have at least two teachers and 15 students in each treatment group.

Appendix 1 lists studies that were considered germane but excluded according to these criteria, as well as the reasons for exclusion. Appendix 2 lists abbreviations used throughout the review.

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Limitations

It is important to note several limitations of the current review. First, the review focuses on experimental studies using quantitative measures of reading. There is much to be learned from qualitative and correlational research that can add depth and insight to understanding the effects of reading programs, but that research is not considered in this review. Second, the review focuses on replicable programs used in realistic school settings over periods of at least 12 weeks. This emphasis is consistent with the review's purpose in providing educators with useful information about the strength of evidence supporting various practical programs, but it does not attend to shorter, more theoretically-driven studies that may also provide useful information, especially to researchers. Finally, the review focuses on traditional measures of reading performance, primarily standardized tests. These are useful in assessing the practical outcomes of various programs and are fair to control as well as experimental teachers, who are equally likely to be trying to help their students do well on these assessments. However, the review does not report on experimenter-made measures of content taught in the experimental group but not the control group, though results on such measures may also be of importance to some researchers or educators.

Categories of Research Design

Four categories of research designs were identified. *Randomized experiments* (R) were those in which students, classes, or schools were randomly assigned to treatments, and data analyses were at the level of random assignment. When schools or classes were randomly assigned but there were too few schools or classes to justify analysis at the level of random

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assignment, the study was categorized as a *randomized quasi-experiment* (RQE) (Slavin, 2008). Several studies claimed to use random assignment because students were assigned to classes by a scheduling computer, but scheduling constraints (such as conflicts with advanced or remedial courses taught during the same period) can greatly affect such assignments, and routine scheduling often changes students' schedules after initial assignments. Studies using scheduling computers or other random-appearing assignment methods under the control of school administrators were categorized as matched, not random. *Matched* (M) studies were ones in which experimental and control groups were matched on key variables at pretest, before posttests were known, while *matched post-hoc* (MPH) studies were ones in which groups were matched retrospectively, after posttests were known. For reasons described by Slavin (2008), studies using fully randomized designs are preferable to randomized quasi-experiments, but all randomized experiments are less subject to bias than matched studies. Among matched designs, prospective designs were preferred to post-hoc or retrospective designs. In the text and in tables, studies of each type of program are listed in this order (R, RQE, M, MPH). Within these categories, studies with larger sample sizes are listed first. Therefore, studies discussed earlier in each section should be given greater weight than those listed later, all other things being equal.

Results

Research on Reading Curricula

The reading curricula category includes 7 qualifying studies of core basal textbooks and 9 studies of supplementary texts used as initial instruction with all students (outcomes of remedial texts are reviewed separately by Slavin et al., 2009b). Professional development is typically

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provided with these curricula, but there is far less of it than would be typical of the programs categorized in this review as instructional process programs or combined curriculum and instructional process programs. In the reading curriculum programs reviewed in this section, the theory of action is that improved content and curriculum-embedded assessments aligned with national or state standards will improve students' reading achievement. Reading outcomes of core and supplementary textbooks for the upper elementary grades have not been previously reviewed. The Slavin et al. (2008) review of middle and high school reading programs did not find any qualifying studies of reading curricula. However, reviews of research on a wide variety of mathematics textbooks by Slavin et al. (2008) and Slavin et al. (in press), which find average effect sizes near zero, suggest that effects of alternative curricula in upper elementary reading will also be modest. Characteristics and findings of individual studies appear in Table 1.

Core Basal Programs

Open Court

Open Court Reading, published by SRA/McGraw Hill, is one of the most widely used basal textbook series in the U.S. From the 1960's to the late 1990's, *Open Court* was a phonetically-based alternative to traditional basal textbooks, but in recent years other texts have also adopted more phonics as well. Still, *Open Court* remains distinctive in its use of decodable texts in the early grades, a focus on direct instruction of specific skills throughout the program, scripted teacher's manuals, and more teacher training and follow up than most texts provide. Teachers in the research sites received 2-3 days of initial training and extensive on-site follow-up from *Open Court* consultants. Typically, *Open Court* is used in 2½-hour language arts blocks,

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meaning that schools using it may spend significantly more time on reading than would students in other programs, where 90 minutes is typical.

Borman, Dowling, & Schneck (2007) carried out a randomized evaluation of the 2005 version of *Open Court* Reading. They identified a total of 49 grade 1-5 classrooms in which *Open Court* had not been used previously, and randomly assigned classrooms within schools and grade levels to *Open Court* or control conditions. Control classes used a variety of traditional texts. *Open Court* teachers were asked to teach the program 2 ½ hours a day, while control teachers generally spent 90 minutes a day on reading. Not all *Open Court* classes spent the full 2 ½ hours, but most did, so additional time is confounded with any curricular effects. Also, the *Open Court* teachers received extensive training and follow-up beyond that ordinarily provided with the basal text.

At the grade 2-5 level, the focus of the present review, there were 18 *Open Court* classes (n=342) and 15 control classes (n=271). The schools were located in Idaho, Florida, North Carolina, and Texas, and averaged 77% free lunch and 73% minority. *Open Court* and control classes were well matched on Terra Nova pretests and demographics. On Terra Nova posttests, adjusted for pretests, effect sizes were +0.15 for Reading Comprehension, +0.13 for Reading Vocabulary, and +0.15 for Reading Composite. Using HLM, with students nested within classrooms, effects were significant ($p<.05$) for the entire grade 1-5 sample, but separate analyses were not reported for grades 2-5.

Skindrud & Gersten (2006) carried out an evaluation of *Open Court* in Sacramento schools. Control schools used *Success for All.* The 1996 edition of *Open Court Collections for Young Scholars* was implemented in Sacramento with a high level of support and intensity.

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Schools in the program received extensive training and follow- up and had half- or full-time facilitators. The program was used 2 ½ hours each day, with 2 hours of whole-class instruction followed by 30 minutes of small-group instruction and/or independent work. In contrast, the control schools had 90 minutes of daily reading instruction.

Two cohorts of students were followed over a two-year period. In a cohort that began in second grade (n=292 E, 142 C), effect sizes on state SAT9 Reading tests adjusted for ITBS pretests favored *Open Court* by an effect size of +0.41 at the end of second grade and +0.30 at the end of third grade. A second cohort that began in third grade (n=350 E, 292 C) had an effect size of -0.05 at the end of third grade and +0.10 at the end of fourth grade. Averaging across the cohorts, the mean effect size was +0.18 after one year and +0.20 after two years. It is important to note that both *Open Court* and *Success for All* groups gained substantially more than the state as a whole on the state tests.

Reading Street

Reading Street is a significant revision of the *Scott Foresman* basal textbook series, one of the most widely used in the U.S. The revision focused on increasing the emphasis on phonics and phonemic awareness, in line with requirements of No Child Left Behind. The publisher contracted with Magnolia Consulting (Wilkerson, Shannon, & Herman, 2006) to do a one-year randomized evaluation. The study involved 48 teachers of Grades 1-3 in five schools, four urban and one rural. Two of the urban schools and the rural school were middle-class, non-Title I schools primarily serving White students, with 38-40% of students qualifying for free lunch. The remaining two schools were Title I schools with 67% of students qualifying for free lunch, and

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80% of students were African American and 11% were Hispanic. The overall sample was 57% White, 25% African American, and 11% Hispanic, and 54% of students qualified for free lunch.

The 32 teachers of grades 2-3 were randomly assigned within schools to use *Reading Street* or to continue using other basal textbooks. Overall, the groups were fairly well matched on demographic variables and pretest scores. Adjusting for pretests, individual Gates McGinitie scores were not different at second grade (ES=-0.10, n.s.) or third grade (ES=-0.01, n.s.), for a mean of - 0.06 across grades.

A replication of the *Reading Street* evaluation was carried out by Wilkerson, Shannon, & Herman (2007). In grades 2-3, a total of 40 teachers were randomly assigned to *Reading Street* (n=409) or control (n=384) within schools in four sites around the U.S. Overall, approximately 86% of students were White, 8% Hispanic, and 3% African American, and 26% received free or reduced price lunches. Control schools used a variety of textbooks, including *MacMillan Spotlight on Literacy, Harcourt Trophies, Harcourt Signatures*, and *Scott Foresman's* 2000 and 2002 editions. On Gates MacGinitie tests, adjusting for pretests, *Reading Street* students in Grade 2 scored non-significantly lower than controls (ES= -0.14) while Grade 3 students in Reading Street scored slightly higher (ES=+0.06), for a mean of -0.04.

Houghton Mifflin

Houghton Mifflin Reading: A Legacy of Literacy is a traditional basal reader for elementary schools that was first introduced in 2000-2001. It includes student anthologies, practice books, a reader's library, and other elements typical of comprehensive basal series, with more emphasis on phonics than in earlier editions.

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Swartz & Johnston (2003) carried out a two-year evaluation of *Houghton Mifflin* under contract to the publisher. The evaluation compared five mostly African American schools in Chicago that chose *HM* to five schools using one of three other basal series (*McGraw Hill*, *Harcourt*, or *Silver Burdett*). The main group of students was followed from spring of first grade to spring of third grade. Schools were matched on ethnicity, SES, and prior reading achievement. A total of 220E and 326C students remained over the two-year period. At the end of the first year, effects were small on all ITBS measures, adjusting for ITBS pretests: Reading (ES=+0.05), Word Analysis (ES=-0.04), and Vocabulary (ES=+0.09), for an average of ES=+0.04. By third grade, effect sizes were ES=-0.08 for Reading and ES= +0.38 for Vocabulary, for a mean ES = +0.15. A separate cohort (N=91T, 374C), followed for one year from grades 2-3, had effect sizes of -0.04 for Reading and +0.17 for Vocabulary, for a mean of ES = +0.07. The average effect size across the two cohorts was +0.11.

Harcourt Reading Program

The *Harcourt Reading Program* is a widely used traditional basal textbook approach. Like other basal textbook series, it has added more of an emphasis on phonics in its recent editions. Under a contract from the publisher, Conner, Greene, & Munroe (2004) evaluated *Harcourt Reading* with students in grades 3-5 in 63 high-poverty Philadelphia elementary schools (schools ranged from 61% to 98% free lunch and 92% to 100% minority). Eighteen of the schools (N = 3,928) used *Harcourt*, and 45 (N = 8,904) used unspecified alternative programs. On routinely administered Terra Nova tests given in Fall, 2002 and Spring, 2003,

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students in the *Harcourt* schools made somewhat greater gains (ES = +0.10). Individual-level t-tests found these gains to be statistically significant due to the large sample size.

Whole Language Basals

Rigby Literacy Program

The *Rigby Literacy Program*, published by Harcourt, is a whole language literacy approach that uses leveled non-phonetic books, detailed lessons, and guided reading assessments. It uses shared reading materials including big books in second grade and magazines in fourth grade, with a strong emphasis on writing and comprehension activities. *Rigby Literacy* was originally designed as a supplement to traditional basals, but under funding from the publisher, Wilkerson (2004) evaluated it in a 32-week experiment as a core curriculum. Two experimental schools in two high-poverty districts were matched with two similar schools in the same districts. Experimental and control students were well-matched on demographic factors and pretest scores. About half of the students were African American and quarter to a third Hispanic, and pretest scores were low.

The study examined second graders in 15 classes (E=111, C=124) and fourth graders in 13 classes (E=134, C=103). Students at both grade levels were pre- and posttested on the Gates-McGinitie. Adjusting for pretests, effect sizes were +0.22 for Word Decoding, -0.07 for Word Knowledge, -0.23 for Comprehension, and -0.03 for the total score. None of these differences were statistically significant. Among fourth graders, effect sizes significantly favored the control group: ES= -0.61 for Vocabulary, ES= -0.33 for Comprehension, and ES= -0.48 for the total score. Combining second and fourth grade effect sizes, the overall mean was ES= -0.26.

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Supplementary Curricula

Schoolwide Enrichment Reading Model

The Schoolwide Enrichment Reading Model (SEM-R) is an enrichment approach in which students' learning styles and interests are assessed, curriculum contracting is used to eliminate previously mastered content, and students are exposed to advanced material appropriate to their skills and interests. Extensive use is made of independent reading for interest. The model is adapted from methods used with gifted students (Renzuli & Reis, 1997), but is used with all students.

Reis, Eckert, McCoach, Jacobs, & Coyne (2008) reported a 14-week randomized evaluation of SEM-R in two middle class, mostly White schools in New England. Teachers and students in grades 3-5 were randomly assigned to an experimental group that experienced SEM-R one hour a day and basal readers one hour (n=306), or to a control group that used basal readers two hours daily (n=238). Students were pre- and posttested on an oral reading fluency (ORF) measure and posttested on ITBS. Adjusting for the ORF pretests, effect sizes were +0.08 for fluency and +0.15 for ITBS, for a mean of +0.12.

Elements of Reading: Comprehension

Elements of Reading: Comprehension is a supplementary program published by Harcourt designed to be used along with ordinary basal textbooks to enhance the comprehension skills of students in the intermediate grades. It uses authentic literature to teach vocabulary, comprehension, and writing skills, in a series of 5-day lesson sequences emphasizing multiple

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readings, discussions, and practice opportunities. Teachers participate in a 3-hour workshop to learn the program.

Resendez, Sridiharan, & Azin (2006) carried out an evaluation of *Elements of Reading: Comprehension* under contract to the publisher. In it, 18 teachers in 5 schools located in Arizona, Kentucky, Virginia, and Oregon were randomly assigned to use *Elements of Reading: Comprehension* along with their basals (N=10 teachers, 229 students) or to use the basals without the supplements (N=8 teachers, 184 students). Most students were third graders, but 3.4% were in second grade and 11.9% were in fourth grade. Experimental and control students were reasonably well matched on demographics and pretests, and the overall population was 36% White, 37% Hispanic, and 20% African American, with few children qualifying for free lunch. Students were pre- and posttested on the Gates-McGinitie and the Early Reading Diagnostic Assessment. Adjusting for pretests, non-significant differences favored the experimental group on the Gates Vocabulary (ES=+0.21), Gates Comprehension (ES=+0.11), and Gates Total (ES=+0.17). On the ERDA, pretest differences favored the experimental group, and subtracting these from posttest differences left small differences on Target Words in Context (ES=+0.05), Narrative Passage Fluency (ES=+0.03), Informational Passage Fluency (ES=.00), and Reading Comprehension (ES=+0.12). Averaging across all 6 measures, the effect size was +0.09.

Elements of Reading: Vocabulary

Elements of Reading: Vocabulary is a supplemental program written by Isabel Beck and Margaret McKeown and published by Harcourt. It is designed to be used with any basal text in

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grades K-3, for about 20 minutes daily. Teachers read aloud from anthologies and then use photos, discussions, and workbook activities to introduce vocabulary words.

Under contract to the publisher, Apthorp (2005a) carried out a year-long evaluation of *Elements of Reading: Vocabulary* with third graders in Title I schools in Alabama and New York State. The Alabama schools were 92% African-American and 90% free lunch, while the New York schools were 74% White and about 30% free lunch. Within the Alabama site there were four schools and 7 teachers (n = 79T, 45C), and within the New York site there were three schools and 8 teachers (n = 68T, 76C). Teachers were randomly assigned to treatments within schools, making this a randomized quasi-experiment (RQE). On the Gates McGinitie, there were strong positive effects on Reading Vocabulary in Site A (ES = +0.55, $p<.005$) but not Site B (ES = -0.13, n.s.), for a mean of +0.21. For Reading Comprehension, there were non-significant effects at both sites, ES = -0.06 at Site A and ES = +0.26 at Site B, for a mean of +0.10. On the Early Reading Diagnostic Assessment (ERDA) Sight Vocabulary measure, effect sizes at both sites were estimated at 0.00. Averaging across all 3 measures and both sites gives a mean effect size of +0.10.

Elements of Reading: Fluency

Elements of Reading: Fluency, published by Harcourt, is a supplemental program designed to be used with any basal series to build reading fluency skills. Teachers use the program 20-30 minutes daily. Each week, teachers introduce an authentic book. Students then do repeated readings, including choral reading, echo reading, and partner reading, and at the end of

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the series of lessons students are given oral reading assessments of their words correct per minute.

Under contract to the publisher, Apthorp (2005b) evaluated *Elements of Reading: Fluency*. Two very different sites were involved, but pretest differences in one of them exceeded ES=+0.50, and was therefore excluded. Site B, which did not have significant pretest differences, involved three majority-White Title I schools. About half of the students qualified for free lunch. Ten second-grade teachers were randomly assigned to experimental (N=97) or control (N=87) conditions, in a randomized quasi-experiment (RQE). The control condition was described as balanced literacy with guided reading groups. Students were pre- and posttested on the Early Reading Diagnostic Assessment (ERDA), and they were posttested on the Gates McGinitie Comprehension subtest. Adjusting for pretests, effect sizes were modest and non-signficant on all measures: Gates Comprehension (ES=+0.05), ERDA Word Identification (ES=.00), ERDA Narrative Passage Fluency (ES=+0.15) and ERDA Informational Passage Fluency (ES=+0.18), for a mean across all four measures of +0.10.

Fluency Formula

Fluency Formula is a program distributed by Scholastic that uses a developmental approach to building oral reading fluency. It uses leveled books and regular assessments, as well as partner reading, choral reading, expressive reading, reader's theater, repeated reading, and expert reading for about 15 minutes each day. An evaluation of *Fluency Formula* was carried out under contract to the publisher by Sivin-Kachala & Bialo (2005) in two suburban districts in Long Island, New York. Twelve second-grade teachers and their classes were randomly assigned

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to use *Fluency Formula* during part of their regular reading period or to use traditional basal texts for the entire period. Because there were too few classes for class-level analysis, the study was considered a randomized quasi-experiment (RQE). Overall time for reading was held constant between the experimental and control classes. The groups were well matched on Woodcock pretests. There were 66 experimental and 62 control second graders in the final sample. Most students were White and middle class.

Unfortunately, the measure of fluency was an oral reading fluency assessment used repeatedly in the experimental group but not the control group, and for this reason the fluency measure was excluded for the present review. On the only treatment-independent measure, Woodcock Passage Comprehension, posttest differences adjusted for pretests favored the control group (ES= -0.24, n.s.).

Jacob's Ladder

Jacob's Ladder is a supplemental program for students in grades 3-5 designed to improve reading comprehension. It teaches thinking skills progressively, moving from lower-level issues such as character, plot, and setting, to inferences, to main ideas, to synthesizing information from text and paraphrasing content.

A 12-week evaluation of *Jacob's Ladder* was reported by Stambaugh (2007). Teachers of grades 3-5 in two rural Title I schools in Ohio were assigned to *Jacob's Ladder* or control conditions. Assignment was partially random, but significant deviations from random assignment in several cases made this a matched design. Students were pre- and posttested on the ITBS.

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Significant pretest differences favored the experimental group (ES=+0.40). Adjusting for these, there were no treatment differences (ES=+0.02, n.s.).

Contextually-Based Vocabulary Instruction

Nelson & Stage (2007) evaluated a supplementary intervention in which third and fifth graders received instruction in multiple meanings of vocabulary words. The supplementary instruction took place twice weekly for 20-30 minutes. A 3-month study in a Midwestern school district evaluated the approach. Most students (70%) were White, and 24% were Hispanic. Eight third grade and eight fifth grade classes were randomly assigned to vocabulary supplement (n=159) or control (n=149) conditions, making this a randomized quasi-experiment (RQE). All classes used the same *Scott Foresman* basal textbooks. On Gates MacGinitie Comprehension tests, effect sizes averaged +0.27, with larger effects for low achievers (+0.58) than for middle and high achievers (+0.18). On Gates Vocabulary, overall effects were +0.03. Effects were positive for low achievers (ES=+0.31) but not for average/high achievers (ES= -0.06). The overall effect size was +0.15.

QuickReads

QuickReads is a supplemental reading program that provides students with scaffolded text of increasing difficulty to help them build fluency, vocabulary, and comprehension. Students read brief passages individually, in pairs, and then again for fluency, during 14-16 minute sessions twice a week.

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Huxley (2006) evaluated the use of *QuickReads* in a high-poverty suburban Title I school. Approximately 69% of students received free or reduced-price lunches, 63% were African American, and 35% were White. Two third grade classes (n=35) were taught *QuickReads* by the study's author, and two (n=26) served as controls, in a 12-week study. Experimental and control classes were matched on pretest scores. All classes used Scholastic's *Literacy Place* as their basal textbook; *QuickReads* instruction was provided during additional time. On Gates McGinitie posttests, adjusted for pretests, effect sizes were +0.42 ($p<.001$) for Accuracy, +0.30 ($p<.04$) for Rate, and +0.32 (<.08) for Comprehension, for a mean of +0.35. On the TOWRE, adjusted differences were +0.13 (n.s.) for Sight Word Efficiency and +0.12 (n.s.) for Decoding Efficiency, for a mean of +0.13. The mean effect size across the two measures was +0.24, although the fact that the experimenter taught the program herself during additional time recommends the need for replication in more typical circumstances.

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TABLE 1 HERE

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Conclusions: Reading Curricula

Both core and supplemental reading curricula for the upper-elementary grades have been studied in high-quality evaluations. Among 16 studies, there were six randomized experiments as well as four randomized quasi-experiments, involving more than 10,000 students. These studies found few effects on student reading achievement. The weighted mean effect size for core

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reading curricula was only +0.06, and for supplementary curricula it was +0.07, with an overall weighted mean of +0.06. The mean for the randomized studies and randomized quasi-experiments was +0.04. The only curriculum with promising effects was *Open Court* (average ES=+0.18), but in both of the studies of this program students received far more professional development than that usually provided, and in both studies *Open Court* was used for 2½ hours per day while control students had 90 minutes of reading.

The findings of few positive effects of alternative reading curricula correspond with previous best-evidence syntheses. Slavin et al. (2008) found no studies of middle or high school reading curricula that met inclusion standards. Slavin & Lake (2008) reported a median effect size of only +0.10 for elementary math curricula, and Slavin et al. (2009c) found a weighted mean effect size of only +0.07 for secondary math curricula.

Research on Computer-Assisted Instruction

The effectiveness of computer-assisted instruction (CAI) has been extensively debated over the past 20 years, and there is a great deal of research on the topic. Kulik (2003) concluded that research did not support use of CAI in elementary or secondary reading, although Chambers (2003) came to a more positive conclusion, giving a mean effect size of +0.25. A large study of technology immersion, in which Texas middle schools received laptops for every student, extensive software, and significant amounts of professional development, found no significant effects on reading or math achievement in comparison to schools with ordinary levels of technology (Texas Center for Educational Research, 2007, 2009). These studies did not present

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data on particular programs, but they nevertheless provide context for the review of effects of CAI on reading in the upper elementary grades.

Thirty-one studies of computer-assisted instruction met the standards for the review. These were divided into three categories. *Supplemental CAI* programs, such as *Jostens/Compass Learning, CCC/Success Maker* integrated learning systems (ILS), *Academy of Reading, LeapTrack,* and *My Reading Coach* were ones that provided additional instruction at students' assessed levels of need to supplement traditional classroom instruction. *Computer-Managed Learning Systems* included only *Accelerated Reader*. This program uses computers to assess students' reading levels, assign reading materials at students' levels, score tests on those readings, and chart students' progress, but students do not work directly on the computer. *Innovative Technology Applications* included *Fast ForWord* and *Lightspan.*

Descriptions and outcomes of all studies of CAI in upper elementary reading that met the inclusion criteria appear in Table 2.

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TABLE 2 HERE

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Supplemental CAI

The largest randomized evaluation of supplemental computer-assisted instruction ever done was reported by Dynarski et al. (2007) and Campuzano et al. (2009). Dynarski et al. (2007) presented combined data across multiple CAI models in first and fourth grade reading, as well as sixth grade math and high school Algebra I. In each case, teachers within schools were randomly assigned to treatments and students were pre- and posttested. No significant differences were

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found between experimental and control groups in either subject at any grade level. Campuzano et al. (2009) then reported on a second cohort of students at each grade level, and added information from both cohorts on specific models (which Dynarski et al. was barred from doing). The fourth grade comparisons for *Academy of Reading* and *LeapTrace* are summarized in the following sections.

Academy of Reading

Academy of Reading, published by Autoskill, provides activities focusing on phonemic awareness, phonics, fluency, comprehension, and reading proficiency. Students work at their own pace through self-instructional materials. The program is used about 25 minutes a day at least 3 days a week. In the Dynarski/Campuzano study, a total of 41 teachers (22E, 19C) and their 899 fourth graders (495E, 404C) were randomly assigned to *Academy of Reading* or control schools for a year. Overall, 65% of students received free lunches, 54% were African American, 29% were Hispanic, and 17% were White. Controlling for pretests and demographic variables, the effect size on SAT-10 reading was +0.01 (n.s.).

LeapTrack

LeapTrack is a supplemental CAI program published by LeapFrog School House. *LeapTrack* provides self-paced exercises focusing on phonemic awareness, phonics, vocabulary, and comprehension. Each student receives a personalized "learning path," and uses LeapPad, LeapTrack skill cards, and LeapFrog School House books for 15 minutes a day, 3-5 times per week. In the Dynarski/Campuzano study, a total of 55 teachers (29E, 26C) and 1274 fourth

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graders (665E, 609C) were randomly assigned to *LeapTrack* or control conditions. A total of 61% of students received free lunches, and 57% were African American, 33% White, and 10% Hispanic. On SAT-10, controlling for pretests and demographic variables, the effect size was +0.09 ($p<.05$).

Jostens (Earlier version of *Compass Learning*)

Jostens is an earlier version of an integrated learning system now called *Compass Learning*. It provides an extensive set of assessments, which place students in an individualized instructional sequence. Students work individually on exercises designed to fill in gaps in their skills. *Jostens/Compass Learning* ILS programs are typically used 15-30 minutes per day, 2-5 days per week.

In a randomized experiment, Alifrangis (1991) evaluated an early form of *Jostens* in a school in Fairfax, Virginia, a suburb of Washington, DC. The school was on a military base, and its population was 37% minority. Students in grades 4-6 were randomly assigned to classes, stratifying on grade, sex, minority status, and ability, and their 12 classes were randomly assigned to use *Jostens* either in reading (n=6 classes) or in mathematics (n=6 classes), so that those assigned to math served as a control group for those assigned to reading. Students used the program 20 minutes a day three times a week for a year. Students were pre and posttested on CTBS reading. Overall analyses at the student level found no significant differences in reading. Effect sizes adjusting for pretests were +0.30 for fourth grade, +0.20 for fifth grade, and -0.04 for sixth grade, for a mean of +0.15.

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Becker (1994) evaluated *Jostens* with grade 2-5 students in a high-poverty school in Baltimore. A total of 187 students were matched and then randomly assigned to use the Jostens integrated learning system in either reading or in math. The *Jostens* Reading group achieved non-significantly better scores on the California Achievement Test than did students who did not use the reading software (ES=+0.09).

Standish (1995) evaluated *Jostens* among second graders in two suburban Delaware schools. The *Jostens* schools had 4 teachers and 56 students, while the control school had 5 teachers and 83 students. The schools were well matched on cognitive ability tests and demographics. On MAT6 Reading posttests, adjusted for cognitive ability tests and demographic variables, there were no differences (ES=+0.05, n.s).

Estep (1997) carried out a large matched post-hoc evaluation of *Jostens* among third graders in elementary schools throughout Indiana. She obtained from the company a list of all 53 schools in the state that began to use *Jostens* from 1989 to 1993. For each, a match was identified based on ISTEP pretests and socio-economic status. Schools were then followed from the first year of *Jostens* to 1995, a total of from 2 to 6 years. 42 of the 53 schools had 4 or more years of program use. Adjusting for pretests, the ISTEP Reading total effect size averaged near zero, ES =+0.03. The effect size for a reading vocabulary subtest were identical, ES =+0.03.

Clariana (1994) evaluated *Jostens* in a single, predominantly White, rural elementary school. Four successive third-grade classes taught by the same teacher were compared in a matched post hoc design. The first two classes (n=38) served as controls, while the later two (n=47) used *Jostens* in reading and math, 30 minutes per day. On CTBS Reading scores

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adjusted for pretests, *Jostens* students gained non-significantly more than controls (ES=+0.20, n.s.).

Compass Learning

The only qualifying study of the modern *Compass Learning* program that grew from *Jostens* was a small matched post-hoc evaluation carried out under contract to the publisher by Kadel Research Consulting (2006). The study took place within a single intermediate school in Garfield Heights, Ohio. Fourth and fifth graders in technology classes (n=69) experienced *Compass Learning* and *Easy Teach* in a computer lab. Control classes (n=224) matched on Ohio Achievement Tests (OAT) did not use the technology. Adjusting for pretests, the technology classes scored somewhat lower than controls on the OAT after one year (ES=-0.10), but higher after two years (ES=+0.29).

Across 7 studies, the weighted mean effect size for *Jostens/Compass Learning* was only +0.07.

CCC SuccessMaker

The Computer Curriculum Corporation created an integrated learning system called *SuccessMaker*, in which students work at their own pace on structured, step-by-step activities, with frequent assessment and feedback.

Campbell (2000) evaluated *CCC SuccessMaker* in grades 4-5 in 13 schools in Etowah, Alabama. The schools were relatively middle class, with 37% of fourth graders and 27% of fifth graders receiving free or reduced-price lunches. Seven schools that used *CCC* (N=310) for 10-

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20 minutes daily during reading periods were matched with 6 schools that did not use *CCC* (N=391). Scores on a School Ability Index were nearly identical. At the end of the school year, routinely administered SAT Reading Comprehension test scores slightly favored the control group (ES=-0.09, n.s), while scores on Reading Vocabulary slightly favored the *CCC* group (ES=+0.04, n.s.), for a mean effect size of -0.02.

One of the most important early studies of CAI was a three-year longitudinal evaluation of an early version of *CCC Success Maker* (Ragosta, 1983). In this study, children in four Los Angeles elementary schools were given *CCC* materials in reading and math, and two additional schools served as controls. The design included an element of randomization, as children within the *CCC* schools were randomly assigned to receive either reading or math materials, but the complex design included non-random within-school and between-school comparisons as well, so the overall design is considered matched. Students were pretested in 1976 and then posttested each spring on the CTBS. The reading study involved students in grades 4-6, who were followed for one, two, or three years. Adjusting for pretests and demographic factors, eight one-year comparisons averaged an effect size of +0.25 ($p<.01$) on Vocabulary and +0.23 ($p<.01$) on Comprehension. Three two-year comparisons averaged +0.17 (n.s.) for Vocabulary and -0.01 (n.s.) for Comprehension. One three-year comparison (the children followed from grades 4-6) had effect sizes of +0.58 (n.s.) for Vocabulary and -0.24 (n.s.) for Comprehension. The mean effect size for the three-year cohort was +0.17.

Saracho (1982) evaluated the use of *CCC* software with Spanish-speaking migrant students in grades 3-6. A total of 256 students were pre- and posttested on CTBS Reading. They were evenly divided between those who received supplemental CAI about 3 hours a week over a

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school year and a control group matched on pretest scores and SES. Adjusting for pretests, effect sizes generally favored the control group. Effect sizes for third grade (ES= -0.04), fourth grade (ES= -0.25), fifth grade (ES=+0.16), and sixth grade (ES= -0.17), had a mean of -0.09.

Classworks Gold

Classworks Gold is an integrated learning system that incorporates interactive software programs from many providers. As in all ILS systems, *ClassWorks* has students work at their own level and pace through the activities.

Whitaker (2005) evaluated *Classworks Gold* in two Tennessee schools. One, in Lenoir City, used the program in grade 4-5 reading and math, two 45-minute sessions per week. The control school was in a similar school in Loudon. The schools were mostly White (85%), and about half of the students were low SES. They were well matched on TCAP scores. At posttest, adjusting for pretests, there were no differences on TCAP Reading in fourth grade (ES = -0.10) or fifth grade (ES =-0.19), for a mean of -0.14.

My Reading Coach

My Reading Coach, developed by Mindplay, is reading software designed to help elementary children learn to read. It focuses on phonics, word structure, vocabulary, and comprehension. The software is used daily for one class period, and includes teachers and tutors who help children with the materials.

In a randomized evaluation, Vaughan, Serido, & Wilhelm (2006) studied the program in four schools in three states. A total of 284 students participated; most were in fourth grade (42%)

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or third grade (32%), but some were in second grade (18%) or first grade (8%). Approximately 36% of students were African American, 36% were Hispanic, 4% were Native American, 5% were White, and 27% were ELL/ESL. Students were randomly assigned to use *My Reading Coach* during an extra 45-minute lab session, beyond daily core reading lessons. During the same time, control students engaged in non-computing review lessons and practice exercises with an aide or assistant. Students were pretested in the fall and posttested in the spring on the GRADE. There were 127 intervention and 157 control students. Students in the *My Reading Coach* classes gained significantly more than controls on the overall GRADE (ES=+0.24, p<.001), on Comprehension (ES=+0.22, p<.001), and on Vocabulary (ES=+0.24, p<.01).

WICAT

WICAT was an integrated learning system created by the Waterford Institute and widely used in the 1980's and 1990's. A large matched post-hoc evaluation of *WICAT* was carried out by Miller (1997) in the New York City Public Schools using routinely administered district test scores in reading and mathematics. Ten schools enrolling 14,921 students in grades 3-5 were compared to 20 comparison schools, matched on pretest scores, ethnicity, free lunch eligibility, and limited English proficient students. Overall, schools were low SES. Almost all children were African American or Hispanic, and one-sixth were limited English proficient. Several comparisons were made, but the most scientifically defensible was a comparison of mean effect sizes comparing experimental and control students for three successive cohorts before and then three cohorts after *WICAT* began to be used. At the end of third grade, the average effect size on the DRP was only +0.02.

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Clayton (1992) evaluated WICAT in a matched post-hoc study in grades 2-5 in five schools in northwest South Carolina. One experimental school (n=181) was compared to four matched control schools (n=245). 46% of students received free or reduced-price lunches, and students were 39% African American, 59% White. On CTBS Reading, adjusted for pretests, there were no differences in outcomes (ES=-0.01, n.s.).

Mys & Petrie (1988) evaluated WICAT over a 3-year period in Dearborn, Michigan, in a matched post hoc comparison. Students in one school using WICAT (N=81) were matched on the Cognitive Abilities Test with those in three control schools (N=176). Data were tracked from the end of the first grade to the end of the fourth grade. On ITBS posttests, controlling for pretests, differences nonsignificantly favored the control group (ES=-0.15).

OpenBook to Literacy

OpenBook to Literacy is a software program that uses a combination of voice, text, pictures, video, and graphics to teach reading in a self-paced individualized format, as a supplement to classroom instruction. Williams (2005) carried out a small evaluation of *Openbook to Literacy* among fourth graders in two Memphis schools. The schools were high poverty (90% free lunch) and racially diverse (53% White, 24% Latino, 21% African American). The participating fourth graders (N=66E, 61C) were pre- and posttested on the TORC. At posttest, adjusted for pretests, the differences significantly favored the *OpenBook to Literacy* school (ES = +0.28, $p < .033$).

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Other Supplemental CAI

Becker (1994) reported a randomized evaluation of an ILS program called CNS. A total of 199 students in grades 2-5 in an integrated Baltimore school with 50% of children receiving free lunch were randomly assigned within 9 classes to use CNS either in reading or in math. The math students served as a control group in the reading evaluation. On CAT reading scores controlling for pretests, effect sizes averaged +0.06 (n.s).

Easterling (1982) evaluated the use of *Micro System 80 Critical Reading Series* courseware in a small randomized study in a suburban school district. A total of 42 fifth graders in two schools were in reading or in math over a 4-month period (n=21T, 21C). They used CAI for two fifteen-minute periods per week. Students were pre- and posttested on CAT Reading Comprehension. Posttests adjusted for pretests were nearly identical in two groups (ES=+0.05, n.s.). A comparison to a separate matched control group (n=24) found an effect size of -0.16 (n.s.).

Schmidt (1991) evaluated the use of *Wasatch* software in Grades 2-6. Two CAI schools in Southern California (N=646) were compared with two control schools (N=578), matching on pretests and socio-economic status. On CTBS reading posttests, adjusted for pretests, outcomes were near zero at all grade levels: 2 (ES=0.00), 3 (ES=+0.07), 4 (ES=+0.06), 5 (ES=+0.06), and 6 (ES=+0.02), for an average of +0.04. Patterns were similar for low- and high-achieving students.

Cooperman (1985) conducted a study with two cohorts of students in grades 2-4 from three elementary schools, one experimental and two control, to determine the effectiveness of using a daily 10-minute computer drill program developed by Control Data to improve reading

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comprehension. There were 204 CAI and 266 control students. Students' pretest Comprehension scores on the California Achievement Test were equivalent. At the end of the study, the treatment and control group scores were equivalent (ES= -0.06).

Bryg (1984) carried out a 15-week evaluation of the use of CAI in Omaha. Fourth-grade classes whose teachers used CAI (n=5 teachers, 83 students) were compared with those whose teachers did not use CAI (n=4 teachers, 69 students), matched on pretests. Adjusting for pretests, CAT Reading Comprehension scores non-significantly favored the CAI group (ES=+0.20, n.s.).

Roth & Beck (1987) carried out an evaluation of two microcomputer programs, called *Construct-a-Word* and *Hint and Hunt*, designed to build decoding and word recognition skills. They compared three fourth-grade classes in a low SES, low achieving urban school (N =59) to three classes in a matched comparison school (N =49). Experimental students used the computers about 20 minutes a day, three times a week, over a school year, in addition to their usual reading instruction. On Woodcock Word Attack tests, controlling for pretests, the effect size was substantial (ES =+0.60, $p<.01$), and there was a similar effect size for CAT Vocabulary (ES =+0.53, $p<.01$). However, on CAT Reading Comprehension there were no differences (estimated ES =.00). Averaging across the three measures gives a mean ES of +0.38.

Coomes (1985) evaluated the use of a variety of drill-and-practice software in four middle class schools in Texas. Fourth graders were individually matched on CTBS pretest and demographic data and assigned to CAI (n=51) or control (n=51) conditions. On CTBS posttests, controlling for pretests, effect sizes were near zero (ES=+0.02, n.s.). There was a trend toward positive effects for low achievers and negative effects for high achievers.

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Hoffman (1984) evaluated use of CAI for 10 minutes daily in a brief and small matched study. Two schools in a large, suburban district in the Mid-West participated. One third-grade class in each school used CAI (N=51) and one served as a control group (N=45). On the Gates, controlling for pretests, the non-significant effect sizes were -0.04 for comprehension and -0.10 for vocabulary, for a mean of-0.07.

Levy (1985) evaluated the use of CAI software provided by a company called Instructional Systems Incorporated among fifth-graders in four schools that used CAI beginning in 1982 (N =293), compared with those in the previous cohort before CAI began (N =288). Experimental students used the software in both reading and math in three 20-minute sessions per week. On SAT posttests, controlling for pretests, the CAI students gained significantly more (ES =+0.19, p<.001).

Computer-Managed Learning Systems

Accelerated Reader

Accelerated Reader is a supplemental program in which students' reading levels are assessed on a computer, which then prints out reading suggestions at students' levels. Students read books or other materials, and then take tests on the computers to show their comprehension of what they have read. Students can earn recognition or rewards based on reading many books and passing tests on them.

Knox (1996) carried out a small randomized evaluation of *Accelerated Reader* in grades 3-4 within a single southeastern school. 73% of students were White and 27% African

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American, and 73% qualified for free lunch. Children were randomly assigned to *Accelerated Reader* (n=40) or to a control condition (n=37) in which they selected books to read from the same list and were interviewed by a teacher. Adjusting for pretests, effect sizes averaged +0.25 for DRS Vocabulary and -0.07 for SAT Vocabulary. For Comprehension, effect sizes averaged -0.13 for the DRS and -0.17 for the SAT. None of these comparisons were significant. Averaging across all four measures, the effect size was -0.03.

Yee (2007) evaluated *Accelerated Reader* in three high-poverty, mostly Hispanic schools in Los Angeles County. The schools averaged 92% free lunch and 61% English language learners. One school used *Accelerated Reader* as a supplement to its *Open Court* reading program, while two schools matched on pretests and demographics served as controls, using only *Open Court*. There were a total of 612 *Accelerated Reader* and 1460 control students in grades 2-5. Differences on California Standards Tests were non-significant at all grade levels, with an average effect size of +0.06.

Innovative Technology Applications

Fast ForWord

Fast ForWord, published by Scientific Learning, is a computerized program designed on the theory that many children with reading and language delays have auditory processing disorders. It uses computer games that slow and magnify acoustic changes within normal speech to "retrain the brain" to process information more effectively. The program was developed by

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neuroscientists who demonstrated that having children use computer games of this type showed improvements in "temporal processing" skills (Merzenich et al., 1996; Tallal et al., 1996).

The initial model was expanded into software for use in schools, adding exercises on reading skills such as word recognition, decoding, fluency, spelling, and vocabulary. Children participate in *Fast ForWord* 90-100 minutes per day, 5 days a week, for 6-8 weeks, so it is intended to make a substantial difference in a relatively short time.

While many studies of *Fast ForWord* have been done, most did not qualify for the current review. Most were too brief (less than 12 weeks), and most used measures of language, not reading. The best of the brief studies, an 8-week randomized evaluation by Borman & Rachuba (2009), found no differences between *Fast ForWord* and control students on reading measures.

Marion (2004) evaluated *Fast ForWord* in fifth and sixth grades in rural Appalachian Grainger County, Tennessee. Almost all students were White, and 52% received free or reduced-price lunches. Students who received *Fast ForWord* (N=215) were matched with those who did not (N=134) on Terra Nova pretests. On Terra Nova posttests, adjusted for pretests, *Fast ForWord* students in the lowest quartile (n=34E, 29C) scored non-significantly higher (ES=+0.15, n.s.).

A small 15-week study in a school in rural Northwest Ohio compared fifth and sixth graders in *Fast ForWord* (n=55) and control (n=87) conditions (Scientific Learning, 2006). On Gates MacGinitie posttests, adjusted for pretests, there were small differences in Comprehension (ES=+0.12, n.s.) and in Vocabulary (ES=+0.11, n.s.) for a mean of +0.11.

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Lightspan

Lightspan is a unique technology application that provides parents with Sony Playstations and digital video multi-players linked to their televisions, and then uses linked instructional software in both school and home. The software, focusing on reading and math objectives, can be assigned by teachers or self-selected by children, and may be used in school or at home. Parents receive training in the technology and in ways to help their children. Each week, a new CD is given to children to take home and teachers assess content intended to be experienced at home.

An evaluation of *Lightspan* was carried out by Birch (2002) in two schools in the Caesar Rodney School District in Delaware. The schools were about 25% minority and 38% of students qualified for free lunch. One school (N=50) used *Lightspan,* and the other (N=51), matched on percent minority free lunch and pretests, served as a control group. The two-year longitudinal evaluation followed all students entering second grade in 1998 through third grade. Students were pre- and posttested on SAT Reading Comprehension and Vocabulary scales. Adjusting for pretests, there were significant first-year differences favoring the *Lightspan* school on vocabulary (ES= +0.48, $p<.01$) but not Comprehension (ES=+0.09, n.s). At the end of the second year, effect sizes were +0.59 ($p<.01$) on Vocabulary and +0.25 ($p<.01$) on Comprehension, for a mean of +0.42.

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Conclusions: Computer-Assisted Instruction

A total of 31 qualifying studies evaluated various forms of computer-assisted instruction, eight of which used random assignment to treatments. The studies involved a total of more than 10,000 students. Overall, the sample size-weighted mean effect size was very small (ES=+0.06). The randomized evaluations (n=8) had a weighted mean effect size of +0.05. These findings support Kulik's (2003) conclusion that effects of computer-assisted instruction in reading are minimal.

It is important to note that there is no trend toward more positive effects in more recent studies. Among 11 studies reported since 2000, the weighted mean effect size was only +0.06, and the large, randomized Dynarski et al. (2007)/Campuzano et al. (2009) study found no significant effects of use of a variety of modern software on the reading achievement of first and fourth graders (ES=+0.02). Most of the CAI studies involved use of computers as supplements to regular classroom instruction, usually for about 30 minutes, one to three times a week. It may be that more intensive uses of CAI would produce more robust effects, and the study of *My Reading Coach,* which provided computerized instruction 45 minutes every day and showed positive effects (ES=+0.24) in a large randomized evaluation, is a hint in this direction. Another promising use of technology is in integrated computer and non-computer instruction, as done in *Read 180,* successfully evaluated in the middle grades (see, for example, White, Haslam, & Hewes, 2006; Papalwis, 2004). However, the evidence summarized here and that presented by Slavin et al. (2008) for middle and high schools clearly indicate that the types of supplementary computer-assisted instruction programs that

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have dominated the use of technology in education for thirty years are not producing significant effects in reading. Many studies of CAI are of high quality and many of them involve large samples. It is difficult to imagine that such a large number of studies would fail to detect a meaningful impact if it existed.

Research on Instructional Process Programs

Instructional process programs are methods that focus on providing teachers with extensive professional development to implement specific instructional methods. In upper elementary reading, instructional process programs are quite diverse. Thirty-three studies, six of which used random assignment, evaluated a broad range of approaches. *Cooperative learning* programs (Slavin, 1995, 2009) use methods in which students work in small groups to help one another master academic content.

Strategy instruction programs teach students cognitive and metacognitive skills such as summarization, graphic organizers, and prediction to help them comprehend text. Strategy instruction is often combined with other methods, especially cooperative learning and peer tutoring. *Fluency programs* focus on building rapid, accurate reading. *Structured phonetic intervention programs* are approaches emphasizing phonics, systematic instruction, and frequent assessment of student progress. *Phonics-focused professional development programs* are ones that teach teachers the NRP elements, especially phonics and phonemic awareness, mostly in workshops. *Integrated language arts programs* are less structured and less phonetic, and focus on integrating reading and writing, literature study, and pleasure in

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reading. *Cross-age tutoring programs* involve older children working with younger ones, and *same-age tutoring* involves having children take turns tutoring one another. *Classroom management and motivation programs* focus on building a positive learning environment.

Descriptions and outcomes of all studies of instructional process programs meeting the inclusion criteria appear in Table 3.

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TABLE 3

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Cooperative Learning

Cooperative Integrated Reading and Composition (CIRC)

Cooperative Integrated Reading and Composition (CIRC) is a cooperative learning program designed to help students develop metacognitive strategies for comprehending narrative and expository text. In CIRC, students work in 4-5 member learning teams to help each other master reading content. After teacher instruction on reading comprehension strategies, students work with teammates on activities in which they predict what will happen in stories, write summaries, and answer questions relating to characters, settings, problems, and problem solutions. They take turns reading to each other and work with each other on writing, vocabulary, and fluency activities. *CIRC*, under the name *Reading Wings,* is used as the upper-elementary reading component of the *Success for All* comprehensive reform model (Slavin & Madden, 2009), but these studies evaluate CIRC as a stand-alone model.

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Stevens & Slavin (1995a) carried out a large 2-year evaluation of *CIRC* in a working-class suburb of Baltimore. A total of 1299 children (635T, 664C) in Grades 2-6 participated, with 31 classes in 3 schools receiving *CIRC* and 32 classes in 4 schools serving as a control group. About 95% of students were White, 9% received free or reduced-price lunch, and 11% were labelled learning disabled. Students were pretested on the CAT in Fall, 1987, and then postested on the CAT in Spring, 1988 and Spring, 1989. Data were analyzed using HLM, with students nested within classrooms, adjusting for pretests. Individual-level adjusted effect sizes were +0.22 ($p<.05$) for Vocabulary and +0.24 ($p<.05$) for Comprehension at the end of the first year, and were +0.20 ($p<.05$) for Vocabulary and +0.26 ($p<.05$) for Comprehension at the end of the second year. Separate analyses for mainstreamed, academically handicapped children found effect sizes of +0.40 ($p<.05$) for Vocabulary and +0.31 ($p<.05$) for Comprehension after one year and +0.37 ($p<.05$) for Vocabulary and +0.32 ($p<.05$) for Comprehension after two years. The mean effect size at the end of the study was +0.23 for all children and +0.35 for academically handicapped children.

Stevens & Slavin (1995b) evaluated *CIRC* as part of a larger schoolwide intervention called the *Cooperative Elementary School*. The study took place over a 2-year period in a suburban Maryland district. A total of 1012 students in Grades 2-6 participated. Only 7% of students were members of minority groups, 10% were disadvantaged, and 9% were identified as learning disabled. The study compared 21 classes receiving *CIRC* in two schools to 24 classes in 3 comparison schools, matched on CAT pretests and demographic and socioeconomic factors. A total of 873 students (411T, 462C) took both pre- and postests (86% of the original sample).

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Students were pretested on CAT reading and then posttested each spring. Data were analyzed using HLM, with students nested within classes. At the end of the first year, adjusted effect sizes were +0.13 (n.s.) for Reading Comprehension and +0.17 ($p<.05$) for Reading Vocabulary. After two years, effect sizes were +0.28 ($p<.01$) for Reading Comprehension and +0.21 ($p<.01$) for Reading Vocabulary, for a mean of +0.25. Separate analyses for students in special education (n = 40T, 36C) found effect sizes of +0.29 (n.s.) for Reading Comprehension and +0.26 (n.s.) for Reading Vocabulary after 1 year, but after two years effect sizes were +0.85 ($p<.01$) for Reading Comprehension and +0.76 ($p<.01$) for Reading Vocabulary. In addition, separate analyses for gifted students (n = 46T, 61C) found effect sizes of +0.34 (n.s.) for Reading Comprehension and +0.14 (n.s.) for Reading Vocabulary after one year, but +0.68 ($p<.01$) on Reading Comprehension and +0.65 ($p<.01$) on Reading Vocabulary after two years.

Jenkins, Jewel, Leicester, O'Connor, Jenkins, & Troutner (1994) carried out a large matched evaluation of a schoolwide intervention in Mount Vernon, Washington, designed to avoid ability grouping and fully mainstream remedial and special education with general education. The experimental treatment was primarily *CIRC*, although cross-age tutoring, peer tutoring, and supplementary phonics instruction were also provided for struggling students. All students in grades 1-6 experienced *CIRC* in the experimental school (n=332), while those in a control school (n=528) used traditional methods. Adjusting for pretest scores, students in the experimental groups scored significantly higher than controls on MAT Total Reading (ES=+0.18, $p<.001$) and MAT Vocabulary (ES=+0.31, $p<.001$), and marginally higher on MAT Comprehension (ES=+0.09, $p<.07$). The average effect size was +0.18. Outcomes for remedial and special education students were particularly positive.

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Stevens, Madden, Slavin, & Farnish (1987, Study 1) evaluated *CIRC* in a middle-class suburb of Baltimore. The study compared third and fourth graders in 11 classes in 6 schools implementing *CIRC* with those in 10 classes in 4 control schools, which used the same textbooks but did not use cooperative learning. Schools were matched on CAT reading and demographics, and averaged 16% minority students and 3% disadvantaged. *CIRC* was implemented over a 12-week period in the spring semester of 1985. Students were pre- and postested on CAT Total Reading, and data were analyzed using nested analyses of covariance similar to HLM. Adjusted individual-level effect sizes were +0.19 ($p<.05$) for reading comprehension and +0.17 ($p<.05$) for reading vocabulary, for a mean of +0.18.

Stevens et al. (1987, Study 2) evaluated *CIRC* over a 6-month period in a middle-class suburb of Baltimore. This study involved 450 third and fourth graders. *CIRC* was used in 9 classes in 4 schools, and there were 13 control classes in 5 schools matched on CAT reading scores and demographics. The students averaged 22% minority and 18% received free or reduced-price lunch. As in Study 1, nested analyses of covariance similar to HLM were used with CAT postests. Adjusted individual-level postest effect sizes were +0.35 ($p<.002$) for Reading Comprehension, +0.11 ($p<.04$) for Reading Vocabulary, and +0.23 ($p<.01$) for CAT Total. On individually administered Durrell Oral Reading Tests, given to six randomly selected students in each class, *CIRC* students scored substantially higher than controls, averaging ES = +0.54 across five measures ($p<.02$). Averaging the CAT total with the Durrell, the mean effect size was +0.45. Separate analyses for students in special education (N=6T, 14C) found CAT effect sizes of +0.99 for Reading Comprehension and +0.90 for Reading Vocabulary, and

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analyses for remedial reading students (N=30T, 55C) found effect sizes of +0.40 for Reading Comprehension and +0.26 for Reading Vocabulary.

Bramlett (1994) evaluated *CIRC* among third graders in eight schools in rural southern Ohio. Nine classes using *CIRC* (N=198) were compared to nine control classes (N=194). Controlling for pretests, CAT posttests slightly favored SFA on Comprehension (ES=+0.10, p<.05), Total Reading (ES=+0.07, p<.07), Word Analysis (ES=+0.10, p<.08), and Vocabulary (ES=+0.03, n.s.), for a mean of +0.08. Effects were particularly positive for low achievers (ES=+0.38), but were not significant for average (ES=+0.04) or high achievers (ES=+0.13).

Rapp (1991) evaluated CIRC in two White, working class schools in Lewistown, Idaho. One school using CIRC was compared to a well-matched control school that used the same Harcourt Brace basal texts. Third graders (E=43, C=45) were pre- and posttested on the ITBS. Differences adjusted for pretests nonsignificantly favored the CIRC group, with effect sizes of +0.09 for Reading Comprehension and +0.18 for Vocabulary, for an average of +0.14.

Calderón, Hertz-Lazarowitz, & Slavin (1998) evaluated an adaptation of *CIRC* for second and third graders transitioning from Spanish to English reading instruction. This adaptation, *Bilingual Cooperative Integrated Reading and Composition (BCIRC),* was compared in three matched El Paso, Texas bilingual schools to four matched bilingual schools using traditional methods in a two-year experiment. Schools were well matched on the Bilingual Syntax Measure (BSM). All students in the sample were Mexican-American and Spanish-dominant, in high-poverty Title I schools near the Mexican border.

At the end of the first year, second graders (still being taught in Spanish) were compared on the Spanish Texas Assessment of Academic Skills. Students in BCIRC (N=51) scored

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significantly higher than those in control schools (N=42) (ES=+0.30, p<.02). Third graders, who transitioned to English, were compared on the English Norm-Referenced Assessment Program for Texas (NAPT) Reading. Those in BCIRC (N=52) again scored significantly higher than those in control schools (N=33) (ES=+0.62, p<.01). At the end of the second year, students who had been in BCIRC for two years (N=26) scored substantially higher than controls (N=33) (ES=+0.87, p<.01). BCIRC third graders were also substantially more likely than controls to meet the criteria for exit from bilingual education at the end of third grade. Combining third graders who had been in the program one and two years (N=66), 32% qualified for exit, in comparison to 10% of control third graders.

A 19-month matched post-hoc study of *CIRC* by Skeans (1991) examined scores on routinely administered Metropolitan Achievement Tests before and after *CIRC* was implemented in a suburban district near Houston. Third and fifth graders were non-randomly assigned to *CIRC* or to an integrated language arts treatment. Outcomes varied by grade level. Among third graders, students in *CIRC* (N=169) compared to controls (N=141) scored significantly higher in Vocabulary (ES=+0.20, p<.02) and non-significantly higher on Reading Comprehension (ES=+0.08, n.s.). In fifth grade, students in *CIRC* (N=179) scored less well than those in control (N=141) on both Vocabulary (ES= -0.15, n.s.) and Reading Comprehension (ES= -0.24, p<.003). Averaging across both measures and both grades, the mean ES was -0.03.

Across 9 studies of CIRC involving more than 5000 students, the weighted mean effect size was +0.21.

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Reader's Theater

Reader's Theater is a cooperative learning method designed to enhance students' reading by having them read the scripts of plays. Students are taught to read dramatically, with proper intonation, inflection, and fluency, working in small mixed-ability groups. The approach is used about 15 minutes daily as a supplement to ordinary reading instruction.

Carrick (2000) evaluated *Reader's Theater* in a 12-week experiment among fifth graders in 4 schools in an urban New Jersey District. Three classes in one of the schools (N=53) received *Reader's Theater,* four classes from two schools implemented a 'quasi-control' treatment involving paired reading (N=74), and three classes in the fourth school (N=45) served as a control group, and continued traditional basal textbook instruction. Students were pre- and posttested on Terra Nova comprehension tests and on an oral reading accuracy scale. At posttest, adjusting for pretests, students in the *Reader's Theater* scored non-significantly higher than those in the control group (ES=+0.22) and those in the paired reading group (ES=+0.12), for a mean of +0.17. On oral reading accuracy, the differences were significant with adjusted effect sizes of +0.46 in comparison to controls and +0.37 in comparison to paired reading, for an average of +0.37, and an overall average across measures of +0.27

Averaging across 10 studies of cooperative learning, the weighted mean effect size was +0.21.

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Same Age Tutoring

Peer-Assisted Literacy Strategies (PALS)

Peer-Assisted Literacy Strategies, or *PALS,* is a technique in which children work in pairs, taking turns as teacher and learner, to learn a structured sequence of literacy skills, such as phonemic awareness, phonics, sound blending, passage reading, and story retelling. Children use a simple error-correction strategy with each other, under guidance from the teacher.

Fuchs, Fuchs, Kazdan, & Allen (1999) evaluated *PALS* in a 21-week study in Grades 2-4. Two forms of *PALS* were evaluated. In *PALS*, students worked 35 minutes 3 times a week in pairs, alternating roles as teacher and learner. They engaged in partner reading, summarization, identification of main ideas, and predictions. In the second group, called *PALS-HG*, the same procedures were followed, but students also received training in specific strategies to help their partners figure out correct responses on their own. Teachers of 24 classes were randomly assigned to *PALS, PALS-HG*, or control classes. They designated one low, one average, and one high-achieving student, and only these students were assessed (even though all children in each class participated in the treatments). Students were pre- and post-tested on the Reading Comprehension subtest of the SDRT. Pretest differences for fourth graders exceeded +0.50, so this grade was not included. In grades 2-3, posttests adjusted for pretests were very positive for *PALS* (ES=+0.72), but essentially zero for *PALS-HG*, for a mean ES=+0.36. However, the very small numbers of students involved (N=15 per condition) made these differences non-significant.

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Same-Age Tutoring and Strategy Instruction

Van Keer & Verhaeghe (2005) evaluated an intervention in which children in second and fifth grades participated in reciprocal peer tutoring activities modeled on *PALS* (Fuchs et al., 1997) and also received strategy instruction, described elsewhere in this article. The intervention was evaluated as part of a larger study that also included cross-age tutoring and strategy-only interventions, as well as a control group. The same-age tutoring model involved pairs of students (one higher and one lower achiever) who were trained to take turns tutoring one another with specially designed materials. Peer tutoring took place once or twice a week, for a total of 50 minutes.

Classes were non-randomly assigned to conditions within mostly middle-class schools in Dutch-speaking Flanders, Belgium. Among second graders, five classes (n=91) used same-age tutoring and six (n=124) served as controls. At the fifth grade level, there were four experimental classes (n=101) and six controls (n=107). On a Dutch standardized reading comprehension test, controlling for pretests, differences compared to the control group were nonsignificant in second grade (ES=+0.17, n.s.), but scores were slightly lower than those of the strategy-only group (ES=-0.07, n.s.). Among fifth graders, there were significant differences in comparison to the control group (ES=+0.40, $p<.01$). but these students scored no better than the strategy-only group (ES=+0.05, n.s.). The average effect size in comparison to the control group was +0.29. On six-month retention measures, difference were positive but nonsignificant in second grade (ES=+0.24, n.s.) and fifth grade (ES=+0.25, n.s.).

Van Keer & Verhaeghe (2008) reported a replication of their study in a subset of the original schools. Former experimental teachers used either cross-age tutoring or same-age

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tutoring, and their classes were matched with former control classes based on pretests. For the same-age tutoring analyses there were 12 second grade classes (6E, 6C) and 234 students (110E, 124C). There were 15 fifth grade classes (9E, 6C) and 293 students (186E, 107C). Controlling for pretests, posttest effect sizes were +0.26 (n.s.) for second graders and +0.21 ($p<.02$) for fifth graders, for a mean of +0.24. On December retention tests, effect sizes were +0.14 and +0.28, respectively.

Cross-Age Tutoring

Reading Together

Reading Together is a cross-age tutoring program in which fourth and fifth graders serve as tutors for younger children, using special materials. Policy Studies Associates (2007) carried out a randomized evaluation of *Reading Together* in Irving, Texas. Second graders were randomly assigned to *Reading Together* (N=56) or control (N=68) conditions for one year (2005-2006). At the end of the year, routinely administered Terra Nova assessments, adjusted for pretests, showed no differences (ES= -.01, n.s.). However, in a followup measure in Spring, 2007, students who had been in the treatment group scored nonsignificantly higher than controls (ES=+0.18, n.s.) on the state's TAKS-Reading assessment.

Cross-Age Tutoring: Hilger

Hilger (2000) evaluated a cross-age tutoring approach in which high school students tutored third graders in a single high-poverty elementary school, in which 78% of students qualified for free or reduced-price lunches and 34% of students were African American, 34%

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were Asian-American (mostly Hmong), 26% were White, and 5% were Hispanic. All students in two classrooms received tutoring (n=47), while those in two matched classes served as a control group (n=35). Students were well matched on MAT pretests. On STAR posttests, adjusted for pretests, effect sizes non-significantly favored the tutored students (ES=+0.16). Larger effects were seen on a reading fluency measure (ES=+0.58, p<.05). Averaging the two, the effect size was +0.37.

Cross-Age Tutoring and Strategy Instruction

As part of a study comparing three approaches to improving the reading comprehension of children in grades 2 and 5 (strategy instruction, cross-age tutoring, and same-age tutoring), Van Keer & Verhaeghe (2005) compared children who participated in cross-age tutoring and received strategy instruction to those in a control condition that received neither. The strategy instruction elements are described elsewhere in this article. Cross-age tutors were fifth graders who received training and supportive materials similar to those used in *PALS* (Fuchs, Fuchs, Mathews, & Simmons, 1997). Tutoring took place about 50 minutes per week in one or two sessions.

The evaluation took place in mostly middle class schools throughout Dutch-speaking Flanders, Belgium, over a school year. Classes were non-randomly designated within schools. Three second grade classes (n=66) received cross-age tutoring, and six served as controls (n=124). Among fifth graders, four classes (n=169) provided tutoring and six (n=107) served as controls. On a Dutch standardized reading comprehension test, controlling for pretests, experimental groups scored significantly higher (ES=+0.22, p<.05). However, there were no

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differences between the tutoring + strategy and the strategy-alone treatment (ES=+0.01, n.s.), so the overall effects appear to be due to the strategy training, not the tutoring. The fifth graders who served as tutors also scored higher than controls (ES=+0.32, p<.05). Again, however, they did not score higher than the strategy-only group (ES=+0.01, n.s.). The mean effect size in comparison to controls was +0.27 across grades. On six-month retention tests, the differences had disappeared for second graders (ES=-0.06, n.s.), but increased for fifth graders (ES=+0.60, p<.01).

A replication of the Belgian study was reported by Van Keer & Verhaeghe (2008). In a subset of the schools that participated in the earlier study, former experimental teachers used either cross-age tutoring or same-age tutoring. Their classes were matched with former control classes on pretests. For the cross-age tutoring analyses, there were a total of 14 second-grade classes (8E, 6C) and 286 students (162E, 124C), and for fifth graders, 13 classes (7E, 6C) and 263 students (156E, 107C). On the same Dutch reading tests as in the original study, effect sizes were +0.42 (p<.03) for second graders and +0.28 (p<.001) for fifth graders, for a mean of +0.35. On a December retention test, the differences were +0.23 (n.s.) for second graders and +0.42 (p<.02) for fifth graders.

Strategy Instruction

Reciprocal Teaching

Reciprocal Teaching (Palincsar & Brown, 1984) is an instructional strategy in which students work in small groups to help one another generate their own questions about a text they are reading, summarize parts of the text, clarify word meanings and confusing text passages, and

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predict what might come next. There have been many studies of *Reciprocal Teaching*, which generally find positive outcomes on measures of reading comprehension (Reosenshine & Meister, 1994), but most studies have been too brief to meet the standards of the present review. An exception is a German study by Spörer, Brunstein, & Kieschke (2009). The intervention was only 7 weeks in duration, but there was a 12-week follow-up assessment, making this a 19-week study for the purposes of this review. The subjects were 210 students in grades 3-6 in two middle-class schools in a German town. Students were randomly assigned to ordinary *Reciprocal Teaching* (n=42), *Reciprocal Teaching* in which students worked in pairs instead of small groups (n=60), and a control group in which students used traditional methods (n=66). A control group in which students were also taught reading comprehension strategies but as a whole class (n=42), as well as the two experimental conditions, were taught in groups of 4-6 by instructional assistants. On a German standardized test of reading comprehension, students in the original *Reciprocal Teaching* program gained significantly more than those in the control group, controlling for pretests (ES=+0.65, $p<.006$). None of the other variations were different from the control group.

Belgian Model

Van Keer & Verhaeghe (2005) compared three approaches to improving the reading comprehension of children in grades 2 and 5: Strategy instruction, cross-age peer tutoring, and same-age tutoring. The tutoring interventions are described elsewhere in this article. Strategy instruction involved training children in six strategies: a) activating prior knowledge and connecting it to the text, b) predictive reading and checking story outcomes, c) distinguishing

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main issues from side issues, d) monitoring and regulating the understanding of words and expressions, e) monitoring and regulating comprehension, and f) classifying types of text and adjusting reading behavior to it.

The study took place in mostly middle class schools in Dutch-speaking Flanders, Belgium, over a full school year. It involved second graders in 8 experimental classes (n=163) and 6 control classes (n=124), and fifth graders in 8 experimental classes (n=177) and 6 control classes (n=107). Assignment to classes was done within schools and was partially random, but because it was not completely random the authors described the design as matched. On two Dutch standardized tests, the second grade strategy groups scored significantly higher, adjusting for pretests (ES=+0.24, p<.01), as did the fifth grade groups (ES=+0.35, p< .01), for a mean of +0.30. A retention test, given six months after the end of the experiment when children were in the next grade, found no differences for second graders (ES=.00, n.s.), but effects remained strong for fifth graders (ES=+0.47, p<.01).

Thinking Maps

Thinking Maps is a program that teaches students to use graphic organizers to help them understand concepts. Specific visual representations are taught for each of eight thinking processes. For example, a tree is used for classifying and categorizing, a bridge for analogies, and a double bubble for compare/contrast.

Leary (1999) evaluated *Thinking Maps* among fourth graders in high-poverty, 79% free lunch schools in southeastern Virginia. One school (n=41) with two teachers used *Thinking*

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Maps, while another, also with two teachers (n=37), served as control group. Adjusting for pretests, SAT-9 posttests showed nonsignificant positive effects (ES=+0.31, n.s.).

In a two-year matched post hoc study, Hickie (2006) compared students in two high-poverty (71% free lunch), mostly White schools in northeastern Tennessee. One school (n=24) used *Thinking Maps* from grades 4 to 5, while another (n=30) served as a control group. Differences on TCAP favored the control school at pretest but the experimental school at posttest, with an adjusted effect size of +0.70 ($p<.01$).

Foundations and Frameworks

Foundations and Frameworks (*F & F)* is a professional development program for teachers of reading that emphasizes direct instruction in reading comprehension strategies, graphic organizers, flexible use of small instructional groups, vocabulary instruction, and formative and summative instruction. The program was evaluated in a small study in grades 4-5 in Philadelphia Christian schools by Blackmon (2008). Three experimental schools (n=52) were compared to two control schools (n=51), matched on Gates MacGinitie pretests. Posttests, adjusted for pretests, did not show significant differences on SAT-10 scores in Comprehension (ES=-0.08, n.s.) or in Vocabulary (ES=+0.04, n.s.), for a mean of -0.02.

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Fluency Programs

Fluency-Orientated Reading Instruction (FORI)

Kuhn et al. (2006) evaluated an approach designed to increase the reading fluency of second graders, *Fluency-Orientated Reading Instruction (FORI)*. Teachers followed a weekly schedule of modeling fluent reading with a grade-level text, asking students to "echo read" selected sentences and then paragraphs, and assigning choral reading, partner reading, and extension activities. A year-long evaluation compared *FORI* and control schools in New Jersey and Georgia. A third treatment, "wide reading", did not meet inclusion standards because of large pretest differences. The second graders were 51% African American, 23% White, 21% Hispanic, and 5% Asian-American, and about 58% of students received free or reduced-price lunches.

Five schools were randomly assigned to use *FORI* (N=3 schools, 143 students) or to control (N=2 schools, 84 students), in a randomized quasi-experiment. Adjusting for fall pretests, spring differences favored *FORI* on TOWRE Sight Word Efficiency (ES=+0.29, $p<.001$), GORT-4 Reading Fluency (ES=+0.10, n.s.), and WIAT Reading Comprehension (ES=+0.18, n.s.), for an average effect size of +0.19.

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Structured Intervention Programs

Exemplary Center for Reading Instruction (ECRI)

Exemplary Center for Reading Instruction (*ECRI*) is a reading professional development program developed by Ethna Reid (1996). It emphasizes individualized instruction, positive reinforcement, and constant assessment of children's mastery levels. Students work in small groups with others performing at their level. Teachers are given strategies for developing phonics and word structure skills as well as comprehension and writing strategies.

Numerous local evaluations of *ECRI* are contained in reports submitted to the Joint Dissemination Review Panel (JDRP), a US Department of Education program of the 1980s and '90s that reviewed evaluations of various educational programs (Reid, 1996). However, with one exception, evaluations typically lacked control groups, involved only one class for treatment, or had large pretest differences, and did not meet the standards of this review.

Reid (1996) reported a post-hoc matched analysis of an evaluation of ECRI in grades 2-6 in Morgan County, in eastern Tennessee. Four ECRI schools (n=590) were compared to one control school (n=331). Adjusting for pretests, the ECRI schools gained more on SAT Comprehension (ES=+0.71, $p<.001$) and Vocabulary (ES=+0.59, $p<.001$), for an average of +0.65.

Cohen (1991) evaluated *ECRI* in an urban school district. Overall, approximately 45% of students were African-American, 32% were White, and 21% were Hispanic. *ECRI* schools were matched with control schools based on ITBS pretests and demographics. Data were obtained from district records, making this a matched post-hoc study (MPH). A total of 473 third graders

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(n = 242E, 231C) had ITBS scores at the end of third grade. Adjusting for ITBS pretests, effects were not statistically significant for Reading Comprehension (ES = +0.07, n.s.), but were significant for Reading Vocabulary (ES = +0.21, p<.05), for a mean of +0.14.

Phonics-Focused Professional Development

Language Essentials for Teachers of Reading and Spelling (LETRS)

Garet et al. (2008) carried out a large randomized evaluation of two variations of *Language Essentials for Teachers of Reading and Spelling (LETRS)*, a professional development approach designed by Louisa Moats (2005) to teach teachers to use the five components of reading instruction recommended by the NRP (phonemic awareness, phonics, fluency, vocabulary, and comprehension), as well as a balance of explicit instruction, guided independent practice, and differentiation to meet individual students' needs. *LETRS* was very widely used as part of the federal Reading First program. One *LETRS* variation provided eight days of training over the course of a school year. The second variation provided the same workshops but also supplemented them with an average of 60 hours of in-school coaching from expert coaches.

The study schools were very disadvantaged, with 78% of students qualifying for free or reduced-price lunches. An average of 78% of students were African American, 15% were White, and 5% were Hispanic. A total of 90 schools (30 per treatment) were randomly assigned to treatments within 6 urban districts. There were 5,530 students (*LETRS*=1,983, *LETRS* + coaching=1,738, control=1,809), and 270 teachers. Routinely administered tests were converted to standard scores within districts so they could be combined. Assessments of teachers' knowledge of the workshop content showed positive effects for both groups, but there were no significant differences on achievement measures. Effect sizes were +0.08 for *LETRS,* and +0.3 for *LETRS* + Coaching, for a mean of +0.06. A year later, follow-up effect sizes were still not significant, at +0.10 for *LETRS* and +0.01 for *LETRS* + Coaching, for a mean of +0.06.

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Integrated Language Arts Programs

Literature-Based Program

Morrow (1992) described a reading approach for second graders that supplemented traditional basal textbooks with extensive literature in many genres, independent reading and writing periods, directed reading/listening thinking activities, read-aloud sessions, and classroom literacy centers. In a year-long randomized quasi-experiment, nine second-grade teachers and their classes were randomly assigned to one of three groups. One (n=56) used the *Literature-Based Program* along with parent activities, one (n=46) used it without parent activities, and one (n=64) served as a control group, using traditional basal textbooks and methods. Unfortunately, most outcome measures were experimenter made and were closely aligned with the experimental treatment. The one exception was the California Achievement Test Reading scale, given as a pre- and posttest by the district. On the CAT, posttests adjusted for pretests were not statistically different; effect sizes were approximately +0.21 for school + home vs. control, and approximately +0.20 for schools only vs. control, for a mean of +0.21.

Success in Reading and Writing

Success in Reading and Writing was an integrated reading and language arts program for grades K-6 that emphasized use of students' own language, everyday reading materials, and avoidance of ability grouping, writing, self-esteem, and flexibility for teachers. The program was evaluated by Lindsey (1988) in one experimental and one control school in the Pacific Northwest, matched on SES and pretests. Students in grades 2-3 (n=56E, 41C) were pre- and posttested on CAT. Adjusting for pretests, posttest differences nonsignificantly favored the

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control group, which used traditional basal textbooks (ES=-0.12). Effect sizes averaged -0.23 for Comprehension and +0.01 for Vocabulary, for a mean of -0.11.

Carbo Reading Styles

Carbo (Carbo, Dunn, & Dunn, 1986) developed a strategy for adapting reading strategies to students' diverse learning styles. The approach involves assessing children with Carbo's (1982) Reading Styles Inventory, and then training teachers to use a variety of teaching methods appropriate to different styles. The methods include phonic, linguistic, whole-word, individualized, language experience, and recorded books, among others.

Oglesby & Suter (1995) carried out an evaluation of the *Reading Styles* method with third and sixth graders in an urban, mostly African American school in the Mid-South. A matched school was identified that was similar in demographics and Gates-MacGinitie pretests. On posttest Gates scores, controlling for pretests, the students in the *Reading Styles* classes (6 classes, 105 students) gained more than those in the control classes (7 classes, 93 students), with an effect size of +0.27.

Classroom Management and Motivation Programs

Consistency Management-Cooperative Discipline (CMCD)

Consistency Management-Cooperative Discipline (CMCD) is an approach to classroom management and motivation that emphasizes making children active and valued participants in classroom activities. It provides professional development to teachers in methods of involving students in setting and adhering to classroom rules, randomly calling on all students, building

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positive interpersonal relations, and giving students roles in management of daily activities. *CMCD* is not a reading program, but its effects on reaching achievement have been evaluated. Freiberg, Prokosch, Treiser, & Stein (1990) evaluated *CMCD i*n five Houston elementary schools. The schools were 90% African American, and 72% of students qualified for free or reduced-price lunch. In a post-hoc matched comparison, five similar schools were identified, matched on prior test scores and demographics. District-administered standardized tests were followed from 1986 (pre) to 1988 (post).

Students (N=364) of 28 grade 2-5 teachers who had received full *CMCD* training and had remained in their schools from 1986 to 1988 were compared to a randomly selected group of students in the control schools (N=335). The groups were well matched on pretest scores and demographics. Reading posttests adjusted for pretests were somewhat higher for the *CMCD* students on the MAT6 from grades 2-5 (ES=+0.09). On the Texas Education Assessment of Minimal Skills (TEAMS), students in grades 3 and 5 scored non-significantly better in *CMCD* schools than in control schools (ES=+0.14), for an average across measures of +0.12.

A Newark study by Opuni (2006) compared schools that used CMCD to comparison schools that used alternative reform models, *Accelerated Schools* and the *School Development Program*. The mostly African-American, high-poverty schools were matched on demographic factors in a matched post-hoc comparison. Third graders (n=228) in seven CMCD schools were individually matched with students in seven control schools (N=228) based on their second grade Stanford-9 scores, taken in 1998. At posttest, adjusted for pretests, CMCD students scored significantly higher (ES=+0.26, $p<.05$).

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Student Success Skills

Campbell and Brigman (2005) described *Student Success Skills (SSS),* a small group counseling intervention in which counselors used a structured approach emphasizing achievement in academic, social, and self-management skills. Groups met for 45 minutes once a week for 8 weeks in the fall and then had four "booster sessions" from January through April. Using role plays, art, music, and drama, counselors worked with children on goal-setting and strategies relating to social problem solving, anger management, and self-management.

A randomized study of *SSS* among 480 low-achieving fifth and sixth graders was carried out in 20 Florida schools by Campbell and Brigman (2005). Most students (82%) were White, 9% were African American, and 5% were Hispanic. Students were randomly assigned to conditions (n= 240E, 240C). Routinely administered FCAT reading tests were used as pre- and posttests. Adjusting for pretests, FCAT posttests showed marginally significant positive effects (ES=+0.23, p=0.051).

Responsive Classroom

The *Responsive Classroom* is an approach to instruction that emphasizes social-emotional learning. It provides teachers with professional development in strategies such as morning meetings, rules and logical consequences, academic choice, guided discovery, and communicating with families. It applies a schoolwide discipline model and strategies for encouraging students' academic efforts.

Although the *Responsive Classroom* is not specifically a reading program, its effects on reading have been evaluated in a matched post-hoc study that meets the standards of this review.

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That study, by Rimm-Kaufman, Fan, Chiu, & You (2007), followed children in three *Responsive Classroom* schools and three control schools, matched on pretests, free lunch, and ethnicity. Overall, 53% of students were White, 22% African American, 21% Hispanic, and 5% Asian, and 35% qualified for free lunch. Students' scores on the DRP were analyzed from grades 2-5 (n=211E, 170C), 3-5 (n=282E, 220C), or 4-5 (n=266E, 240C). The one year (4-5) outcomes, adjusting for pretests, were ES=+0.07, n.s., but there were significant differences for two-year outcomes (ES=+0.16, $p<.05$) and for three-year outcomes (ES=+0.21, $p<.01$). Averaging across cohorts, the mean effect size was +0.15.

Conclusions: Instructional Process Programs

Both the methods and the findings of instructional process programs for upper-elementary reading were quite diverse. Across 33experimental-control comparisons, involving more than 17,000 students, the weighted mean effect size was +0.21. These include four randomized and two RQE studies.

Ten of the studies evaluated two forms of cooperative learning. These had a weighted mean effect size of +0.21. This corresponds with findings for the secondary reading synthesis, which found a weighted mean effect size of +0.28 for cooperative learning (Slavin et al., 2008), and with the math reviews, which reported median effect sizes of +0.29 for cooperative learning at the elementary level (Slavin & Lake, 2008) and +0.32 at the middle and high school level (Slavin et al., 2007).

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All but one of the cooperative learning studies evaluated *Cooperative Integrated Reading and Composition (CIRC)*, which involves students in well-structured cooperative groups within which they help each other master and apply metacognitive learning strategies. *CIRC* was the basis for middle school reading programs called *Student Team Reading* and *The Reading Edge*, which had a weighted mean effect size of +0.29 in four studies reported by Slavin et al. (2008). The consistent positive effects of this family of cooperative learning approaches support the idea that programs focusing on professional development in structured activities that engage children in discussions about reading, giving them opportunities to help each other learn and use metacognitive skills, may have particular promise for enhancing reading achievement from the second grade onward. Positive effects were also found for cross-age tutoring programs (ES=+0.26 in 4 studies) and for same-age tutoring (ES=+0.26 in 2 studies), reinforcing the conclusion that structuring interaction among students on reading strategies is an effective approach. Programs emphasizing strategy instruction (ES=+0.32 in 5 studies) in which children were taught skills such as prediction, summarization, and self-evaluation, also showed particular promise.

It is important to note that additional instructional process programs also showed positive effects, but because the studies evaluating these approaches involved small groups of struggling readers rather than students in general, these findings are reviewed in a companion article by Slavin et al. (2009b). These include *DISTAR/Corrective Reading, PALS,* and *Empower Reading*.

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Overall Patterns of Outcomes

Across all categories, there were 78 qualifying studies of upper-elementary school reading programs involving a total of more than 32,000 students, of which 22 used random assignment (15 were fully randomized and 7 were randomized quasi- experiments). The overall sample size-weighted mean effect size was +0.13. These studies were identified from among more than 2000 studies initially reviewed, and represent those that used rigorous experimental procedures.

The mean effect sizes reported for successful programs, in the range of +0.20 to +0.30, are similar to those found in previous reviews of secondary reading, but generally lower than those found for effective elementary and secondary mathematics programs. Such effects are modest compared to those often reported for brief experiments or studies with measures closely aligned with treatments, but they are important in light of the fact that they mostly come from large, realistic studies usually using the kinds of standardized tests for which schools are held accountable. Such tests probably underestimate true impacts of experimental treatments, as they are unlikely to be sensitive to the specific content being taught. To give a sense of the importance of effect sizes of this magnitude, an effect size of +0.25 represents about half of the minority-White reading achievement gap on the National Assessment of Educational Progress (NCES, 2007). The large, lengthy studies with standard measures that form the core of this review illustrate what could be accomplished at the policy level if schools widely adopted and effectively implemented proven programs, not what could theoretically be gained under ideal, hothouse conditions.

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Outcomes for High Poverty Schools

An important question for policy and practice is where effects of various programs are particularly strong or weak for students in high-poverty schools. To examine this question, schools in each study were defined as 'high-poverty' if at least 50% of their students qualified for free or reduced-price lunches, or if other information in the study (such as a description of schools as serving high-poverty neighborhoods) indicated high poverty status. Thirty-one of the studies involved high-poverty schools, by this definition. Outcomes were somewhat higher for low-poverty schools than for high-poverty schools. Among the studies of reading curricula, weighted mean effect sizes were +0.08 (n=10) for high-poverty schools and +0.02 (n=6) for low-poverty schools. For CAI, the weighted mean effect sizes were +0.07 (n=8) for high-poverty schools and +0.05 (n=22) for low poverty schools. Among studies of instructional process programs, the weighted mean effect sizes were +0.31 (n=12) for high-poverty schools and +0.21 (n=19) for low-poverty schools.

As in the overall set of studies, the studies of high-poverty schools supported the observation that programs that provide extensive professional development to teachers in specific classroom strategies are most likely to make a difference in the achievement of students in high-poverty schools. From a policy perspective, what these findings imply is that proven models could be used effectively in any type of school, but in order to reduce gaps according to socioeconomic status, these programs should be particularly encouraged among high-poverty Title I schools.

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Does Random Assignment Matter?

An important methodological question can be addressed by data from the current review. This is the degree to which studies that use random assignment produce effect sizes different from those of matched studies. Previous reviews by Slavin et al. (2008, 2009c, see Slavin & Smith, in press) have uniformly found very small differences between the outcomes of randomized and matched studies, and Cook, Shadish, and Wong (2008) and Torgerson (2006) have described groups of educational studies in which randomized and matched designs produce essentially equivalent effect sizes.

In the present synthesis, randomized and matched studies once again produced similar effect sizes, on average. Fully randomized studies (n=22) had a weighted mean effect size of +0.07. Including randomized quasi-experiments (n=6) brought the mean to +0.09. The effect size for matched studies was +0.14.

The observation that randomized and matched evaluations of classroom instructional programs produce similar outcomes does not mean that randomization is unnecessary (Cook et al., 2008; Slavin & Smith, 2008). First, it is important to note that randomization probably does make a difference in effect sizes in studies in which individual children select themselves into treatments (as in studies of voluntary after-school programs) or are selected into treatments (as in studies of gifted or special education programs). In studies of programs implemented in whole classrooms or schools, potential selection bias only operates at the classroom or school levels, and in large studies this does not appear to be highly

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consequential. Still, there is good reason to prefer randomization, as it greatly reduces the possibility of selection bias (Shadish, Cook, & Campbell, 2002). Further, use of random assignment, which is a virtual requirement in fields such as medicine, establishes the important principle that educational research can be as rigorous as research in any other field.

Summarizing Evidence of Effectiveness for Current Programs

For many audiences, it is useful to have summaries of the strength of the evidence supporting achievement effects for programs educators might select to improve student outcomes. Slavin (2008) proposed a rating system intended to balance methodological quality, weighted mean effect sizes, sample sizes, and other factors, and this system was applied by Slavin et al. (2008), Slavin & Lake (2008), and Slavin, Lake, & Groff (2007). Using similar procedures, upper elementary reading programs were categorized as follows.

Strong Evidence of Effectiveness

At least two prospective studies (i.e., not post hoc), one of which is a large (n=250) randomized or randomized quasi-experimental study, or multiple smaller studies, with a sample size-weighted effect size of at least +0.20, and a collective sample size across all studies of at least 500 students. To qualify for this category, effect sizes from the randomized studies must have a weighted mean effect size of at least +0.20.

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◒ Moderate Evidence of Effectiveness

At least two randomized or matched prospective studies, with a collective sample size of 500 students, and a weighted mean effect size of at least +0.20.

◒ Limited Evidence of Effectiveness: Strong Evidence of Modest Effects

Studies meet the criteria for "Moderate Evidence of Effectiveness" except that the weighted mean effect size is +0.10 to +0.19.

◒ Limited Evidence of Effectiveness: Weak Evidence with Notable Effects

A weighted mean effect size of at least +0.20 based on one or more qualifying studies of any qualifying design insufficient in number or sample size to meet the criteria for "Moderate Evidence of Effectiveness."

○ Insufficient Evidence of Effectiveness

One or more qualifying studies not meeting the criteria for "Limited Evidence of Effectiveness."

N No Qualifying Studies

Table 5 summarizes currently available programs falling into each of these categories (within categories, programs are listed in alphabetical order).

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Table 5 Here

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None of the programs qualified for the "Strong Evidence of Effectiveness" category, which requires at least one large randomized experiment with a weighted mean effect size of at least +0.20. Three programs met the standards for "Moderate Evidence of Effectiveness:" *Cooperative Integrated Reading and Composition (CIRC), Cross-Age Peer Tutoring + Strategy Instruction, and Same-Age Peer Tutoring +Strategy Instruction*. Importantly, all three of these programs involve peer interaction, and all emphasize teaching students cognitive and metacognitive learning strategies. *CIRC* was evaluated in nine matched studies with a weighted mean effect size of +0.21. The evidence for both cross-age and same-age tutoring with strategy instruction came from two large studies in Belgium.

The "Limited Evidence of Effectiveness" category was divided into two sub-categories (a distinction not made in previous reviews). One category included programs with at least two prospective matched or randomized studies with a collective sample size of 250, but with effect sizes in the range of +0.10 to +0.19. Just one program fell into this category, *Open Court* (with extra time and coaching), which had one large randomized and one large matched study with a weighted mean effect size of +0.18.

The second sub-category of "Limited Evidence of Effectiveness," "Weak Evidence with Notable Effects," included programs evaluated in studies with fewer than 250 students or otherwise failing to meet study quality standards for "Moderate", but reporting effect sizes of at least +0.20. Thirteen programs fell into this category.

"Insufficient Evidence" refers to programs that were evaluated in at least one qualifying study, but had effects too small to fit either of the "Limited Evidence" categories.

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Appearance in this category does not imply that a program is "proven ineffective," but it does indicate a lack of support for the program's impact on reading skills. Pragmatically, this category has nearly the same meaning as the final category, "No Qualifying Studies," which contains by far the largest number of current programs in this and all previous syntheses.

Discussion

As in previous reviews, this synthesis found fewer large, high-quality studies of upper elementary school reading programs than one would wish for. Although 80 studies (involving more than 40,000 students) did qualify for inclusion, there were small numbers of studies on any particular program, and only 24 studies involved random assignment to conditions. Further, causal claims cannot be made with confidence in systematic reviews, which can only review the studies that exist.

Keeping these limitations in mind, there are several important patterns in the findings that are worthy of note. First, this article finds extensive evidence supporting forms of cooperative learning in which students work in small groups to help one another master reading skills, and in which the success of the team depends on the individual learning of each team member, the elements that previous reviewers (e.g., Rohrbeck et al., 2003; Slavin, 1995, 2009; Webb & Palincsar, 1996) have identified as essential to the effectiveness of cooperative learning. In particular, nine matched studies of *Cooperative Integrated Reading and Composition* (CIRC) found positive reading outcomes, on average. The finding of

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positive effects of cooperative learning programs is consistent with the findings of reviews of secondary reading programs (Slavin et al., 2008) and elementary and secondary math programs (Slavin & Lake, 2008; Slavin et al., 2009c). Positive effects for studies of cross-age and same-age tutoring reinforce the value of engaging students in structured peer-to-peer interactions.

Also consistent with previous research is the finding in the present study that both alternative curricula (weighted mean effect size=+0.06, N=16) and computer-assisted instruction (weighted mean = +0.06, N=31) generally produced small effects on reading measures. An earlier review of CAI in math and reading by Kulik (2003) similarly found few positive effects for reading.

The findings of this review add to a growing body of evidence to the effect that what matters for student achievement are approaches that fundamentally change what teachers and students do every day. These programs are characterized by extensive professional development in classroom strategies intended to maximize students' participation and engagement, give them effective metacognitive strategies for comprehending text, and strengthen their phonics skills. As in earlier reviews, such strategies had outcomes that were clearly and consistently more positive than those found for curricula or CAI alone. These positive effects were found equally for high-poverty and low-poverty schools. More research and development of reading programs for upper-elementary students is clearly needed, but this review identifies several promising approaches that could be used today to help students succeed in reading in the intermediate grad

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References

Alifrangis, C.M. (1991). An integrated learning system in an elementary school: Implementation, attitudes, and results. *Journal of Computing in Childhood Education, 2*(3), 51-66.

Apthorp, H. (November, 2005a). *A study of the effects of Harcourt Achieve's Elements of Reading: Fluency.* Mid-Continent Research for Education and Learning.

Apthorp, H. (December, 2005b). *A study of the effects of Harcourt Achieve's Elements of Reading: Vocabulary.* Mid-continent Research for Education and Learning.

Baer, J., Baldi, S., Ayotte, K., Green, P.J., & McGrath, D. (2007). *The reading literacy of U.S. fourth-grade students I an international context: Results from the 2001 and 2006 Progress in International Reading Literacy Study (PIRLS).* Washington, DC: National Center for Education Statistics, U.S. Department of Education.

Becker, H.J. (1994). Mindless or mindful use of integrated learning systems. *International Journal of Educational Research, 21*(1), 65-79.

Birch, J. (2002). *The effects of the Delaware Challenge Grant Program on the standardized reading and mathematics test scores of second and third grade students in the Caesar Rodney School District*. Unpublished doctoral dissertation, Wilmington College.

Blackmon, C.M. (2008). The efficacy of Foundations & Frameworks on elementary students' reading achievement in urban Christian schools. Unpublished doctoral dissertation, Liberty University.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Borman, G., Dowling, N. M., & Schneck, C. (2007). *The national randomized field trial of Open Court Reading*. Madison, WI: University of Wisconsin.

Borman, G., & Hewes, G. (2003*).* Long-term effects and cost effectiveness of Success for All. *Educational Evaluation and Policy Analysis, 24* (2), 243-266.

Borman, G.D., Hewes, G.M., Overman, L.T., & Brown, S. (2003) Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research, 73* (2), 125-230.

Borman, G. D., & Rachuba, L. T. (2001). *Evaluation of the Scientific Learning Corporation's Fast ForWord computer-based training program in the Baltimore City Public Schools.* Report prepared for the Abell Foundation, August.

Borman, G.D., Slavin, R.E., Cheung, A., Chamberlain, A., Madden, N.A., & Chambers, B. (2007). Final reading outcomes of the national randomized field trial of Success for All. *American Educational Research Journal, 44* (3), 701-731.

Bramlett, R. K. (1994). Implementing cooperative learning: A field study evaluating issues for school-based consultants. *Journal of School Psychology, 32* (1), 67-84.

Bryg, V. (1984). *The effect of computer assisted instruction upon reading achievement with selected fourth grade children*. Unpublished doctoral dissertation, University of Nebraska.

Calderon, M., Hertz-Lazarowitz, R., & Slavin, R.E. (1998). Effects of bilingual cooperative integrated reading and composition on students making the transition from Spanish to English reading. *The Elementary School Journal, 99*(2), 153-165.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Campbell, J.P. (2000). *A comparison of computerized and traditional instruction in the area of elementary reading*. Unpublished doctoral dissertation, University of Alabama.

Campbell, C., & Brigman, G. (2005). Closing the achievement gap: A structured approach to group counseling. *The Journal for Specialists in Group Work*, 30(1), 67-82.

Campuzano, L., Dynarski, M., Agodini, R., & Rall, K. (2009). *Effectiveness of reading and mathematics software products: Findings from two student cohorts.* Washington, DC: Institute of Education Sciences, U.S. Department of Education.

Carbo, M. (1982). *Carbo Reading Styles Inventory*, New York: Learning Research Associates.

Carbo, M., Dunn, R., & Dunn, K. (1986). *Teaching students to read through their individual learning styles*. New York : Allyn & Bacon.

Carrick, L.U. (2000). *The effects of Reader's Theater on fluency and comprehension of fifth grade students in regular classes*. Unpublished doctoral dissertation, Lehigh University.

Chall, J.S. (1983). Literacy: Trends and explanations. *Educational Researcher, 12* (9), 3-8.

Chambers, E. A. (2003). *Efficacy of educational technology in elementary and secondary classrooms: A meta-analysis of the research literature from 1992-2002.* Unpublished doctoral dissertation, Southern Illinois University at Carbondale.

Cheung, A., & Slavin, R.E. (2005). Effective reading programs for English language learners and other language minority students. *Bilingual Research Journal, 29* (2), 241-267.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Clariana, R.B. (1994). *The effects of an integrated learning system on third graders' mathematics and reading achievement*. San Diego, CA: Jostens Learning Corporation. (ERIC Document Reproduction Service No. ED 409 181).

Clayton, I.L. (1992). The relationship between computer-assisted instruction in reading and mathematics achievement and selected student variables. Unpublished doctoral dissertation, The University of Southern Mississippi.

Clements, D. (1986). Effects of Logo and CAI environments on cognition and creativity. *Journal of Educational Psychology, 78*(4), 309-318.

Cohen, K. (1991). *A comparative study of reading instruction management for selected third-grade students in an urban school district*. Unpublished doctoral dissertation, University of North Texas.

Comprehensive School Reform Quality Center (2006). *CSRQ center report on elementary comprehensive school reform models.* Washington, DC: American Institutes for Research.

Conner, J.M., Greene, B.G., & Munroe, K. (2004). *An experimental study of the instructional effectiveness of the Harcourt Reading Program in academically at-risk schools in the Philadelphia City School District*. Institute of America Bloomington, Indiana: Educational Research.

Cook, T., Shadish, W.R., & Wong, V.C. (2008). *Three conditions under which experiments and observational studies produce comparable causal estimates: New findings from*

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

within study comparisons. Paper presented at the annual meetings of The Society for Research on Effective Education, Crystal City, VA.

Coomes, P. (1985). *The effects of computer assisted instruction on the development of reading and language skills.* Unpublished doctoral dissertation, North Texas State University.

Cooper, H. (1998). *Synthesizing research (3rd ed.).* Thousand Oaks, CA: Sage.

Cooperman, K.S. (1985). *An experimental study to compare the effectiveness of a regular classroom reading program to a regular classroom reading program with a computer-assisted instruction program in reading comprehension skills in grades two through four*. Unpublished doctoral dissertation, The American University.

Deshler, D., Palincsar, A., Biancarosa, G., & Nair, M. (2007). *Informed choices for struggling adolescent readers.* Newark, DE: International Reading Association.

Dynarski, M., Agodini, R., Heaviside, S., Novak, T., Carey, N., Campuzano, L., Means, B., Murphy, R., Penuel, W., Javitz, H., Emery, D., & Sussex, W. (2007). *Effectiveness of reading and mathematics software products: Findings from the first student cohort*. Washington, DC: Institute of Education Sciences.

Easterling, B. (1982). *The effects of computer assisted instruction as a supplement to classroom instruction in reading comprehension and arithmetic*. Unpublished doctoral dissertation, North Texas State University.

Estep, S. (1997). *An investigation of the relationship between integrated learning systems and academic achievement*. Unpublished doctoral dissertation, Purdue University.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Freiberg, H.J., Prokosch, N., Tresister, E.S., & Stein, T. (1990). Turning around five at-risk elementary schools. *Journal of School Effectiveness and School Improvement, 1*(1), 5-25.

Fuchs, L., Fuchs, D., Kazdan,S., & Allen, S. (1999). Effects of Peer-Assisted Learning Strategies in reading with and without training in elaborated help giving. *Elementary School Journal, 99*(3), 201-220.

Fuchs, D., Fuchs, L., Mathes, G., & Simmons, D. (1997). Peer-Assisted Learning Strategies: Making classrooms more responsive to diversity. *American Educational Research Journal*, 34 (1), 174-206.

Garet, M.S. et al. (2008). *The impact of two professional development interventions on early reading instruction and achievement*. New York: MDRC.

Hickie, K. (2006). An Examination of Student Performance in Reading/Language and Mathematics after Two Years of Thinking Maps® Implementation in Three Tennessee Schools. Unpublished doctoral dissertation, East Tennessee State University.

Hilger, L. (2000). *Cross-age tutoring in reading: Academic and attitudinal effects from high-school tutors and third-grade tutees*. Unpublished doctoral dissertation, University of Minnesota.

Hoffman, J.T. (1984). *Reading achievement and attitude toward reading of elementary students receiving supplementary computer assisted instruction compared with students receiving*

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

supplementary traditional instruction. Unpublished doctoral dissertation, Ball State University.

Huxley, A. (2006). A Text-Based Intervention of Reading Fluency, Comprehension, and Content Knowledge. Unpublished doctoral dissertation, University of Michigan.

Jenkins, J., Jewell, M., Leicester, N., O'Connor, R., Jenkins, L. & Troutner, N. (1994). Accommodations for individual differences without classroom groups: An experiment in school restructuring. *Exceptional Children, 60*(4), 344-358.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80* (4), 437-447.

Kadel Research Consulting. (2006). Garfield Heights City Schools Maple Leaf Intermediate, Enhancing Education Through Technology, End-year evaluation. Kadel Research Consulting.

Kennedy, M. M. (1978). Findings from the Follow Through Planned Variation study. *Educational Researcher, 7*(6), 3-11.

Knox, M. (1996). *An experimental study of the effects of The Accelerated Reader program and a teacher directed program on reading comprehension and vocabulary of fourth and fifth grade students*. Dissertation Abstracts International, 57 (10), 4208A (UMI No. 9710798).

Kuhn, M.R., Schwanenflugel, P.J., Morris, R.D., Morrow, L.M., Woo, D.G., Meisinger, E.B., Sevick, R.A., Bradley, B.A., & Stahl, S.A. (2006). teaching children to be fluent and automatic readers. *Journal of Literacy Research, 38* (4), 357-387.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Kulik, J. A. (2003). *Effects of using instructional technology in elementary and secondary schools: What controlled evaluation studies say. SRI Project Number P10446.001.* Arlington, VA: SRI International.

Leary, S.F. (1999). *The effect of Thinking Maps® instruction on the achievement of fourth-grade students.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Levy, M.H. (1985). *An evaluation of computer assisted instruction upon the achievement of fifth grade students as measured by standardized tests.* Unpublished Doctoral Dissertation, University of Bridgeport.

Lindsey, M.M. (1998). *A comprehensive evaluation of an integrated reading and language arts curriculum, with attention to the experiences of low achieving children.* Unpublished doctoral dissertation, University of Oregon.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.

Madden, N.A., Slavin, R.E., Karweit, N.L., Dolan, L.J., & Wasik, B.A. (1993). Success for All: Longitudinal effects of a restructuring program for inner-city elementary schools. *American Educational Research Journal, 30*, 123-148.

Marion, G.G. (2004). *An examination of the relationship between students' use of the Fast ForWord Reading Program and their performance on standardized assessments in elementary schools*. Unpublished doctoral dissertation, East Tennessee State University.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Merzenich, M., Jenkins, W., Johnston, P., Schreiner, C., Miller, S., & Tallal, P. (1996). Temporal processing deficits of language learning impaired children ameliorated by training. *Science,* 271, 77-80.

Miller, H. (1997). Quantitative analyses of student outcome measures. *International Journal of Educational Research, 25*, 119-136.

Moats, L. (2005). *Language essentials for teachers of reading and spelling (LETRS).* Frederick, CO: Sopris West.

Morrow, L.M. (1992). The impact of a literature-based program on literacy achievement, use of literature, & attitudes of children from minority backgrounds. *Reading Research Quarterly, 27*, 250–275.

Murphy, R., Penuel, W., Means, B., Korbak, C., Whaley, A., & Allen, J. (2002). *E-DESK: A review of recent evidence on discrete educational software*. Menlo Park, CA: SRI International.

Mys, D.P. & Petrie, J. (1988). *Evaluation of student reading and math WICAT computer managed instructional program Salina Elementary School November, 1985 - June 1988*. Bulletin No 1345, Office of Research and Evaluation, Public Schools, Bearhorn, MI.

National Center for Education Statistics. (2007). *The National Assessment of Educational Progress*. Washington, DC: US Department of Education.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Nelson, J. R., & Stage S. A. (2007). Fostering the development of vocabulary knowledge and reading comprehension through contextually based supplemental multiple meaning vocabulary instruction. *Education and Treatment of Children, 30* (1), 1-22.

Oglesby, F., & Suter, W. N. (1995). Matching reading styles and reading instruction. *Research in the Schools* (Mid-South Educational Research Association), 2(1), 11-15.

Opuni, K.A. (2006). The effectiveness of the Consistency Management & Cooperative Discipline (CMCD) model as a student empowerment and achievement enhancer: The experiences of two K-12 inner-city school systems. Paper presented at the 4th Annual Hawaii International Conference of Education, Honolulu, Hawaii.

Policy Studies Associates (2007). *Evidence of long-term learning outcomes among Reading Together tutees*. Washington, DC: Author.

Papalwis, R. (2004). *Struggling middle school readers: Successful, accelerating intervention.* Sacramento, CA: California State University.

Pressley, M. (1998). *Reading instruction that works: The case for balanced teaching.* New York: Guilford Press.

Ragosta, M. (1983). Computer-assisted instruction and compensatory education: A longitudinal analysis. *Machine-Mediated Learning, 1*(1) 97-127.

Rapp, J. C. (1991). *The effect of cooperative learning on selected student variables (Cooperative Integrated Reading and Composition on academic achievement in reading comprehension, vocabulary and spelling and on student self-esteem*). Ed.D. dissertation, Washington State University, United States -- Washington. Retrieved

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

September 5, 2007, from ProQuest Digital Dissertations database. (Publication No. AAT 9207225).

Reid, E. (1996). *Exemplary Center for Reading Instruction (ECRI) validation study.* Salt Lake City, UT: Exemplary Center for Reading. (ERIC No. ED 414560).

Reis, S.M., Eckert, R.D., McCoach, D.B., Jacobs, J.K., & Coyne, M. (2008). Using enrichment reading practices to increase reading fluency, comprehension, and attitudes. *Journal of Educational Research, 101* (5), 299-314.

Renzulli, J.S., & Reis, S.M. (1998). *The schoolwide enrichment model: A how-to guide for educational excellence* (2nd ed.). Mansfield Center, CT: Creative Learning Press.

Resendez, M., Sridiharan, S., & Azin, M. (2006). *Harcourt Achieve's Elements of Reading: Comprehension randomized control trial*. PRES associates.

Rimm-Kaufman, S., Fan, X., Chiu, Y., & You, W. (2007). The Contribution of the Responsive Classroom Approach on children's academic achievement: Results from a three year longitudinal study. *Journal of School Psychology, 45*, 401-421.

Rohrbeck, C. A., Ginsburg-Block, M. D., Fantuzzo, J. W., & Miller, T. R. (2003). Peer-assisted learning interventions with elementary school students: A meta-analytic review. *Journal of Educational Psychology, 94* (2), 240-257.

Ross, S.M., Smith, L.J., & Casey, J.P. (1997). Preventing early school failure: Impacts of Success for All on standardized test outcomes, minority group performance, and school effectiveness. *Journal of Education for Students Placed at Risk, 2,* (1), 29-53.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Roth, S. & Beck, I. (1987). Theoretical and instructional implications of the assessment of two microcomputer word recognition programs. *Reading Research Quarterly, 22*(2), 197-218.

Rothstein, H.R., Sutton, A.J., & Borenstein, M. (Eds.) (2005). *Publication bias in meta-analysis: Prevention, assessment, and adjustments.* Chichester, UK: John Wiley.

Saracho, O. (1982). The effects of a computer-assisted computer program on basic skills achievement and attitudes toward instruction of Spanish-speaking migrant children. *American Educational Research Journal, 19*(2), 201-219.

Schmidt, S. (1991). *Technology for the 21st century: The effects of an integrated distributive computer network system on student achievement.* Unpublished doctoral dissertation, University of La Verne, LaVerne, CA.

Scientific Learning Corporation. (2006). Improved reading skills by students in Boone County School District who used Fast ForWord products. Maps for Learning: Educator Reports, 10 (15), 1-7.

Sedlmeier, P., & Gigerenzer, G. (1989). Do studies of statistical power have an effect on the power of studies? *Psychological Bulletin, 105*, 309-316.

Shadish, W.R., Cook, T.D., & Campbell, D.T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton-Mifflin.

Sivin-Kachala, J., & Bialo, E. (2005). *Fluency Formula second grade study*. Long Island, NY, New York: scholastic.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Skeans, S. (1991) *The effects of Cooperative Integrated Reading and Composition, fidelity of implementation, and teacher concerns on student achievement.* Ph.D. dissertation, Texas A&M University. Retrieved September 5, 2007, from ProQuest Digital Dissertations database. (Publication No. AAT 9217026).

Skindrud, K. & Gersten, R. (2006). An evaluation of two contrasting approaches for improving reading achievement. *Elementary School Journal, 106* (5), 389-409.

Slavin, R. E. (1986). Best-evidence synthesis: An alternative to meta-analytic and traditional reviews. *Educational Researcher*, *15*, (9), 5-11.

Slavin, R.E. (1995). *Cooperative learning: Theory, research, and practice* (2nd Ed.). Boston: Allyn & Bacon.

Slavin, R. (2008). What works? Issues in synthesizing education program evaluations. *Educational Researcher, 37* (1), 5-14.

Slavin, R.E. (2009). Cooperative learning. In G. McCulloch & D. Crook (Eds.) *International Encyclopedia of Education*. Abington, UK: Routledge.

Slavin, R.E., Cheung, A., Groff, C., & Lake, C. (2008). Effective programs in middle and high school reading: A best-evidence synthesis. *Reading Research Quarterly, 43* (3), 290-322.

Slavin, R.E., & Lake, C. (2008). Effective programs in elementary mathematics: A best evidence synthesis. *Review of Educational Research*.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Slavin, R.E., Lake, C., Chambers, B., Cheung, A., & Davis, S. (2009a). *Effective programs in beginning reading: A best-evidence synthesis*. Baltimore, MD: Johns Hopkins University, Center for Research and Reform in Education.

Slavin, R. E., Lake, C., Chambers, B., Cheung, A. & Davis, S. (in press). Effective reading programs for the elementary grades: A best-evidence synthesis. *Review of Educational Research.*

Slavin, R.E., Lake, C., Davis, S., & Madden, N. (2009b). *Effective programs for struggling readers: A best-evidence synthesis*. Baltimore, MD: Johns Hopkins University, Center for Research and Reform in Education.

Slavin, R.E., Lake, C., & Groff, C. (2009c). Effective programs in middle and high school math: A best evidence synthesis. *Review of Educational Research, 79* (2), 839-911.

Slavin, R.E., & Madden, N.A. (2009). *Two million children: Success for All*. Thousand Oaks, CA: Corwin.

Slavin, R.E., & Madden, N. A. (in press). Measures inherent to treatments in systematic reviews in education. *Journal of Research on Educational Effectiveness.*

Slavin, R.E., & Smith, D. (in press). Effects of sample size on effect size in systematic reviews in education. *Educational Evaluation and Policy Analysis.*

Spörer, N., Brunstein, J.C., & Kieschke, U. (2009). Improving students' reading comprehension skills: Effects of comprehension instruction and reciprocal teaching. *Learning and Instruction, 19,* 272-286.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Stambaugh, T. (2007). *Effects of the Jacob's Ladder reading comprehension program on reading comprehension and critical thinking skills of third, fourth, and fifth grade students in rural, Title I schools*. Ph.D. dissertation, The College of William and Mary, United States -- Virginia. Retrieved November 21, 2007, from ProQuest Digital Dissertations database. (Publication No. AAT 3254406).

Standish, D. (1995). The effects on reading comprehension of Jostens' Integrated Language Arts for second-grade students along with Jostens' Basic Learning System for second-grade Chapter 1 students. *Dissertation Abstracts International, 57* (3), 1079A. (UMI No. 9623238).

Stevens, R.J., & Slavin, R.E. (1995a). Effects of a cooperative approach in reading and writing on academically handicapped and nonhandicapped students. *The Elementary School Journal, 95* (3), 241-262.

Stevens, R.J. & Slavin, R.E. (1995b). The cooperative elementary school: Effect on student achievement and social relations. *American Educational Research Journal, 32*, 321-351.

Stevens, R.J., Madden, N.A., Slavin, R.E., & Farnish, A.M. (1987). Cooperative Integrated Reading and Composition: Two field experiments. *Reading Research Quarterly, 22,* 433-454.

Swartz, J., & Johnston, K. (2003). *Efficacy study of Houghton Mifflin Reading: A Legacy of Literacy.* Cambridge, MA: Abt Associates.

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Tallal, P., Miller, S., Bedi, G., Byma, G., Wang, X., Nagarajan, S. Shchreiner, C., Jenkins, W., Merzenich, M. (1996). Language comprehension in language-learning impaired children improved with acoustically modified speech. *Science*, 271, 81-84.

Texas Center for Educational Research (2007). *Evaluation of the Texas Technology Immersion Pilot: Findings from the second year.* Austin, TX: Author.

Torgerson, C. (2006). The quality of systematic reviews of effectiveness in literacy learning in English: A tertiary review. *Journal of Research in Reading*, *29* (2), 1-29.

Vaughan, J., Serido, J., & Wilhelm, M. (2006). *The effects of My Reading Coach on Reading Achievement of elementary education students*. Phoenix, AZ: Arizona Board of Regents.

Van Keer, H. & Verhaeghe, J. (2005). Comparing two teacher development programs for innovating reading comprehension instruction with regard to teachers' experiences and student outcomes. *Teaching and Teacher Education, 21*, 543-562.

Van Keer, H. & Verhaeghe, J. (2008). *Strategic reading in peer tutoring dyads in second- and fifth-grade classrooms.* Unpublished report. Ghent University, Belgium.

Webb, N.M., & Palincsar, A.S. (1996). Group processes in the classroom. In D.C. Berliner & R.C. Calfee (Eds.), *Handbook of Educational Psychology*. New York: Simon & Schuster Macmillan.

What Works Clearinghouse (2009). *Beginning reading topic report.* Washington, DC: U.S. Department of Education. Retrieved June 1, 2009, from http://www.whatworks.ed.gov/Topic.asp?tid=01&ReturnPage=default.asp

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

Whitaker, J.C. (2005). *Impact of an integrated learning system on reading and mathematics achievement*. Unpublished doctoral dissertation, Tennessee State University.

White, R. N., Haslam, M. B., Hewes, G. M. (2006). *Improving student literacy in the Phoenix Union High School District, 2003-04 and 2004-05. Final Report*. Washington, DC: Policy Studies Associates.

Wilkerson, S.B. (2004). *A study of the effectiveness of Harcourt Achieve's Rigby Literacy Program: Final evaluation report*. Aurora, CO: Mid-Continent Research for Education and Learning.

Wilkerson, S.B., Shannon, L.C., & Herman, T.L. (2006). *An efficacy study on Scott Foresman's Reading Street Program: Year one report*. Austin, Texas: Magnolia Consulting.

Williams, B.J. (2005). *A quasi-experimental study on the effects of the OpenBook to Literacy program on fourth-grade students*. Unpublished doctoral dissertion, Tennessee State University.

Yee, V.N. (2007). An evaluation of the impact of a standards-based intervention on the academic achievement of English language learners. Unpublished doctoral dissertation, University of Southern California.

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Table 5

Summary of Evidence on Upper-Elementary Reading Programs

Program Ratings

Strong Evidence of Effectiveness

None

Moderate Evidence of Effectiveness

Cooperative Integrated Reading and Composition (CIRC) (IP)

Cross Age Peer Tutoring + Strategy Instruction (IP)

Same-Age Peer Tutoring + Strategy Instruction (IP)

Limited Evidence of Effectiveness: Strong Evidence of Modest Effects

Open Court Reading (Curr)

Limited Evidence of Effectiveness: Weak Evidence with Notable Effects

Carbo Reading Styles (IP)

ECRI (IP)

Fast ForWord (CAI)

Lightspan (CAI)

Literature-Based Program (IP)

My Reading Coach (CIA)

OpenBook to Literacy (CAI)

PALS (IP)

QuickReads (Curr)

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Reader's Theater (IP)

Reciprocal Teaching (IP)

Strategy Instruction (Belgian Model) (IP)

Student Success Skills (IP)

Thinking Maps (IP)

○ **Insufficient Evidence of Effectiveness**

Accelerated Reader (CAI)

CCC (CAI)

Classworks (CAI)

Compass Reading (Curr)

Conceptually-Based Strategy Instruction (Curr)

Consistency Management Cooperative Discipline (CMCD) (IP)

Elements of Reading: Comprehension (Curr)

Elements of Reading: Fluency (Curr)

Elements of Reading: Vocabulary (Curr)

Failure Free Reading (IP)

Fluency Formula (Curr)

Foundations and Frameworks (IP)

Harcourt (Curr)

Houghton Mifflin (Curr)

Jacob's Ladder (Curr)

Jostens/Compass Learning (CAI)

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Spell Read (Curr + IP)

Reading Together (IP)

Responsive Classroom (IP)

Rigby (Curr)

Reading Street (Curr)

Spell Read (Curr + IP)

Success in Reading and Writing (IP)

WICAT (CAI)

Wilson Reading (Curr & IP)

N No Qualifying Studies

100 Book Challenge

ABD's of Reading

Academy of Reading

Accelerated Literacy Learning

Achieve 3000

AfterSchool KidzLit

Alphabetic Phonics

Barton Reading & Spelling System

Be a Better Reader

Breakthrough to Literacy

Caught Reading

Charlesbridge Reading Fluency

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Comprehension Plus

Comprehension Upgrade

Concept-Oriented Reading Instruction (CORI)

CRISS / Project CRISS

Cross-Aged Literacy Program

Destination Reading

Direct Instruction

Disciplinary Literacy

Discover Intensive Phonics for Yourself

Dolch® Reading Program

Early Success

Earobics

Edmark Reading Program

Electronic Bookshelf

Essential Learning Systems™

Fast Track Reading

First Steps

Fluency First

Fluent Reader

FOCUS Reading and Language Program

Fundations

Funnix Reading Programs

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Glass-Analysis method

Great Leaps

Headsprout Early Reading

Hooked on Phonics®

Horizons

HOSTS

The Imagination Station

Imagine It!

IndiVisual Reading

Intensive Reading Strategies Instruction (IRSI) Model

Intensive Supplemental Reading

Invitations to Literacy

Irlen Method

Junior Great Books

Kaleidoscope

KidBiz3000 and TeenBiz 3000

Knowledge Box

K-W-L strategy

LANGUAGE!

Language Essentials for Teachers of Reading and Spelling

Language First!

Language for Thinking

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LeapTrack Assessment & Instruction System

Learning to Read

Learning Experience Approach

Learning Upgrade

Lexia

Like to Read

Lindamood-Bell

LiPS

LitART

The Literacy Center

Literacy Seminar

Macmillan/McGraw-Hill Treasures

Making Connections

McGraw-Hill Reading

McRAT

Merit Software

Open Book Anywhere

Open Book Anywhere

Orchard

Orton-Gillingham Approach

Pathways™

Phonetics First-Focus on Sounds

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Phonics First Foundations

Phonics and Friends

Phonics for Reading

Phono-Graphix

PLATO

Project Read

Putting Reading First in Your Classroom

Questioning the Author

Quicktionary Reading Pen II

Rave-O

REACH

READ 180

ReadAbout

Read Naturally

Read Now

READ RIGHT

Read, Write & Type!

Reading Apprenticeship

Reading in the Content Areas

Reading Horizons

Reading to Learn

Reading Mastery

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Reading Plus

Reading Success

Reading Triumphs

Reading Upgrade

Reciprocal Teaching

REWARDS

Rosetta Stone Literacy

Saxon Phonics

Scaffolded Reading Experience

Seeing Stars

SIM-Stategic Instruction Model

Six Minute Solution

Slingerland

Smart Way Reading and Spelling

Soar to Success

Soliloquy Reading Assistant

Sound Sheets

Spalding Method

S.P.I.R.E. and Sounds Sensible

SRA Reading

START-IN

STEPS (Sequential Teaching of Explicit Phonics and Spelling)

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Strategic Literacy Initiative

SuccessMaker

Sunshine

TeachFirst

Teaching Reading Essentials

Text Mapping Strategy

Text Talk

Thinking Works

Transactional Strategies Instruction

Tune in to Reading

Visualizing and Verbalizing

Vocabulary Improvement Program

Voices Reading

Voyager TimeWarp Plus

Voyager Passport

Waterford Early Reading System

Wisconsin Design for Reading Skills Development (WDRSD)

Wright Group Literacy

WriteToLearn

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Studies Not Included in the Review

Program	Study	Reason for Exclusion
Reading Curricula		
Bradley Reading Language Arts	Eberwein-Tupper, A. (2000). A comparison of two systematic decoding programs for developing reading skills in beginning readers. Dissertation Abstracts International, 61 (11), 4326A (UMI No. 9995925).	pretest equivalence not established/ documented
Early Language Connections	Dickinson, J.F. (1997). Influence of the Early Language Connections program on primary student achievement in Fort Smith, Arkansas public schools. Unpublished doctoral dissertation, University of Arkansas.	pretest equivalence not established/ documented
Ginn Reading 720	Carlton, S.B. (1981). *Reading achievement, student attitude, and program costs:a comparative study of two programed supplementary reading programs.* Unpublished doctoral dissertation, The Florida State University.	insufficient sample
Great Leaps	Ajwani, S. (2007). *The success of educational interventions in grades three and five in improving academic progress.* Unpublished doctoral dissertation, St. John's University (New York).	no adequate control group
Harcourt Brace	Clark, D. E., Jr. (2007) A comparison of 3rd grade reading scores between students using an integrated literature based curriculum and students using direct instruction at a charter school. Unpublished doctoral dissertation, Wilmington College.	no adequate control group
Harcourt Collections	Conner, J., Greene, B., & Lloyd, P. (1999). Fall 1999 Study of the instructional effectiveness of Harcourt's Reading/Language Arts program: COLLECTIONS c2000. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Lloyd, P. (2000). A summary report of the instructional effectiveness of Collections: A Harcourt reading/language arts program. Bloomington, IN: Educational Research Institute of America.	no control group

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	Conner, J., Greene, B., & Lloyd, P. (2000). Spring 2000 study of the instructional effectiveness of Harcourt's Reading/Language Arts program: COLLECTIONS c2001. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Lloyd, P. (2001). Winter/Spring 2001 study of the instructional effectiveness of the intervention readers in Harcourt's Reading/Language Arts program: COLLECTIONS c2001. Bloomington, IN: Educational Research Institute of America.	duration < 12 weeks
	Conner, J., Greene, B., & Lloyd, P. (2002). Longitudinal two-year study of the instructional effectiveness of Harcourt's Reading/Language Arts program: Collections c2000. Bloomington, IN: Educational Research Institute of America.	no adequate control group
Harcourt Reading Program	Center for Innovation in Assessment. (1999). A study of the instructional effectiveness of the Harcourt Reading program. Harcourt Reading Technical Report # 2. Orlando, FL: Harcourt School Publishers. (ERIC Document Reproduction Service No. ED431173)	no control group
	Conner, J., Greene, B., & Lloyd, P. (2005). A longitudinal study of the instructional effectiveness of the Harcourt Reading Program in Buffalo, New York: First-year report. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Munroe, K. (2003). A multi-year study of the instructional effectiveness of the Harcourt Reading Program in twenty-four Kansas schools. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Munroe, K. (2003). A one-year study of the instructional effectiveness of the Harcourt Reading Program in eight Ohio schools. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Munroe, K. (2004). A two-year longitudinal study of the instructional effectiveness of the Harcourt Reading Program in Clark County, Nevada: Second-year report. Bloomington, IN: Educational Research Institute of America.	no adequate control group

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	Conner, J., Greene, B., & Munroe, K. (2004). A two-year longitudinal study of the instructional effectiveness of the Harcourt Reading Program in Polk County, Florida: Second-year report. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Munroe, K. (2004). A two-year longitudinal study of the instructional effectiveness of the Harcourt Reading Program in St. Lucie County, Florida: Second-year report. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Munroe, K. (2004). A two-year study of the instructional effectiveness of the Harcourt Reading Program in ten Michigan schools. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Munroe, K. (2005). An examination of reading test scores in a rural Missouri school district using the Harcourt Reading program 2003 to 2005. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Educational Research Institute of America, (2006). A study of the instructional effectiveness of the Harcourt school publishers reading program in 58 New York City Reading First schools.	pretest differences > .5 SD
Harcourt Signatures	Center for Innovation in Assessment. (1998). A study of the instructional effectiveness of the Signatures program. Orlando, FL: Harcourt School Publishers. (ERIC Document Reproduction Service No. ED431172)	no control group
Harcourt Trophies	Conner, J., Greene, B., & Lloyd, P. (2002). A comparison of Harcourt's Trophies: A reading/language arts program with national norm comparison groups. Bloomington, IN: Educational Research Institute of America.	no adequate control group
	Conner, J., Greene, B., & Lloyd, P. (2002). A longitudinal study of the instructional effectiveness of Harcourt's Trophies: A reading/language arts program. Bloomington, IN: Educational Research Institute of America.	no adequate control group

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	Hicks, D. (2006). *The impact of reading instructional methodology on student achievement of Black males based on the Florida Comprehensive Assessment Test.* Unpublished doctoral dissertation, Florida Atlantic University.	pretest equivalence not established/ documented
Huntington Phonics	Eberwein-Tupper, A. (2000). A comparison of two systematic decoding programs for developing reading skills in beginning readers. Dissertation Abstracts International, 61 (11), 4326A (UMI No. 9995925).	pretest equivalence not established/ documented
Houghton-Mifflin Reading	Barr, R., & Sadow, M.W. (1989). Influence of basal programs on fourth grade reading instruction. *Reading Research Quarterly, 24* (1), 44-71.	no adequate outcome measure
	Chaplin, D., & Capizzano, J. (2006, Auguest). Impacts of a summer learning program: A random assignment study of Building Educated Leaders for Life (BELL). Washington, DC: The Urban Institute.	duration < 12 weeks
	Crummett, TC.C. (2007). *A comparison of the efficacy of a traditional reading program versus a full time intervention reading program for at-risk second and third graders.* Unpublished doctoral dissertation, George Fox University.	pretest equivalence not established/ documented
	Levin, J., Haertel, E., Kirst, M., & Williams, T. (2006). Similar students, different results: Why do some schools do better? Additional findings: Elementary school curriculum program and API: A more detailed examination. Mountain View, CA:EdSource	no control group
	Marand, D.R. (1996). *The benefits of a language arts literature-based curriculum on Hispanic students in the third-, fourth-, and fifth-grade.* Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign.	no adequate control group
Hoffman Language Arts	Carlton, S.B. (1981). *Reading achievement, student attitude, and program costs:a comparative study of two programed supplementary reading programs.* Unpublished doctoral dissertation, The Florida State University.	insufficient sample

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Jacob's Ladder	French, H.M. (2005). *A pilot study of the Jacob's Ladder Reading Comprehension Program with gifted and potentially gifted learners in grades 3, 4, and 5.* Unpublished doctoral dissertation, The College of William and Mary.	duration < 12 weeks, pretest differences > .5 SD
Language!	Scurfield-Harris, I. (2006). *The Effects of a Multi-Sensory Language-Based Program on Students Who Exhibit Characteristics of Dyslexia.* Unpublished doctoral dissertation, University of Louisiana at Monroe.	no adequate control group, pretest differences > .5 SD
Language, Literacy, & Vocabulary!	McNabb, M. (2006). Evaluation Study of Language, Literacy, & Vocabulary! Spring 2006 Pilot. Learning Gauge, Inc.	no adequate outcome measure
Marilyn Adams Phonemic Awareness Curriculum	Downie, K.S. (2003). *The change process in a school district: Impact of a balanced literacy program and teacher perceptions of their professional growth and student achievement.* Unpublished doctoral dissertation, Indiana University of Pennsylvania.	pretest equivalence not established/documented
Open Court	Arya, P., Martens, P. Wilson, G. P., Altwerger, B., Jin, L., Laster, B., et al. (2005). Reclaiming literacy instruction: Evidence in support of literature-based programs. *Language Arts, 83*, 63-72.	pretest equivalence not established/ documented
	Cothran, J. (2006). *Efficacy of a selection for reading interventions for low socioeconomic African-American students by ability and grade levels K-3.* Unpublished doctoral dissertation, Tennessee Technological University	no untreated control.group
	Levin, J., Haertel, E., Kirst, M., & Williams, T. (2006). Similar students, different results: Why do some schools do better? Additional findings: Elementary school curriculum program and API: A more detailed examination. Mountain View, CA:EdSource	no control group
	McGraw-Hill Education. (2002). Results with Open Court Reading. New York: Author. (ERIC No. ED464189)(Study: Curtis Creek School District, sonora, CA).	no adequate control group
	McGraw-Hill Education. (2002). Results with Open Court Reading. New York: Author. (Study: Kelso Elementary School, Inglewood, CA). (ERIC No. ED464189)	no adequate control group

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	Westat (2001). *Report on the final evaluation of the city-state partnership: New Baltimore City Board of School Commissioners and the Maryland State Department of Education.* Rockville, MD: Westat.	no adequate control group
	McGraw-Hill Education. (2002). Results with Open Court Reading. New York: Author. (Study: Sacramento City USD, Sacramento, CA). (ERIC No. ED464189)	no control group
	McGraw-Hill Education. (2002). Results with Open Court Reading. New York: Author. (Study: Public School 161, Crown Heights, Brooklyn, NY). (ERIC No. ED464189)	no adequate control group
	McGraw-Hill Education. (2002). Results with Open Court Reading. New York: Author. (ERIC No. ED464189)(Study: Lemoore Union Elementary School District, Lemoore, CA).	no control group
	McGraw-Hill Education. (2002). Results with Open Court Reading. New York: Author. (ERIC No. ED464189)(Study: Canopy Oaks Elementary, Tallahassee, FL).	no adequate control group
	McRae, D. (2002). Test Score Gains for Open Court Schools in California: Results from Three Cohorts of Schools: Executive Summary.	no adequate control group, pretest equivalence not established/ documented
	McGraw-Hill Education. (2002). Results with Open Court Reading. New York: Author. (ERIC No. ED464189)(Study: Fort Worth ISD, Fort Worth, TX).	no control group
	O'Brien, D. M., & Ware, A. M. (2002, March). Implementing research-based reading programs in the Fort Worth Independent School District. *Journal of Education for Students Placed at Risk, 7*(2), 167–195.	pretest differences > .5 SD
	Wehby, Falk, Barton-Arwood, Lane, and Cooley (2003). The effect of comprehensive reading instruction on the academic and social behavior of students with emotional and behavioral disorders. Journal of Emotional and Behavioral Disorders, 11 (4), 225-238.	insufficient sample
On Our Way to English	Harcourt Achieve (nd) The instructional effectiveness of On Our Way to English on English immersion and bilingual students.	pretest differences > .5 SD

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Read Naturally	De la Colina, M. G., Parker, R. I., Hasbrouck, J. E., & Lara-Alecio, R. (2001). Intensive intervention in reading fluency for at-risk beginning Spanish readers. Bilingual Research Journal, 25(4), 417-452.	No untreated control group
	Denton, C. A. (2000). The efficacy of two English reading interventions in a bilingual education program. *Dissertation Abstracts International,* 61(11), 4325A. (UMI No. 9994233)	no adequate control group
	Denton, C. A., Anthony, J. L., Parker, R., & Hasbrouck, J. E. (2004). Effects of two tutoring programs on the English reading development of Spanish-English bilingual students. *The Elementary School Journal, 104*(4), 289–305.	duration < 12 weeks
	Hancock, C.M (2002). *Accelerating Reading Trajectories: The effects of dynamic research-based instruction.* Unpublished doctoral dissertation, University of Oregon, Eugene.	inadequate outcome measure
	Jitendra, A. K., Edwards, L. L., Starosta, K., Sacks, G., Jacobson, L. A., & Choutka, C. (2004). Early reading instruction for children with reading difficulties: Meeting the needs of diverse learners. Journal of Learning Disabilities, 27, 421–439.	no control group
	Read Naturally. (n.d.). Case 1: Original study, Minneapolis, MN. Retrieved from http://www.readnaturally.com/approach/case1.htm.	insufficient sample
	Read Naturally. (n.d.). Case 6: Second graders. Elk River, MN. Retrieved from http://www.readnaturally.com/approach/case6.htm	pretest equivalence not established/ documented, insufficient sample
Read Well	Denton, C. A. (2000). The efficacy of two English reading interventions in a bilingual education program. *Dissertation Abstracts International,* 61(11), 4325A. (UMI No. 9994233)	no adequate control group
	Denton, C. A., Anthony, J. L., Parker, R., & Hasbrouck, J. E. (2004). Effects of two tutoring programs on the English reading development of Spanish-English bilingual students. *The Elementary School Journal, 104*(4), 289–305.	duration < 12 weeks

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Reading Success	Benson, K.A., Marchand-Martella, N.E., Martella, R.C., & Kolts, R.L. (2007). Assessing the Effects of the Reading Success Level B Program with Fifth-grade Students at a Title I Elementary School. Journal of Direct Instruction, Vol. 7, No. 1 – Winter 2007, pg 29-44	no control group
	Reed, J., Marchand-Martella, N., Martella, R., & Kolts R. (2007). Assessing the Effects of the Reading Success Level A Program with Fourth-grade Students at a Title I Elementary School. *Education and Treatment of Children, 30*(1), 45-68.	no control group
Rigby Literacy	Harcourt Supplemental Publishers (September, 2003). A study of the instructional effectiveness of Rigby Literacy. Retrieved September 21, 2007 from www.rigby.com	pretest equivalence not established/ documented
	Perkins, J.A. (2006). *Balanced literacy versus basal reading instruction for urban African-American, Title I third-grade students.* Unpublished doctoral dissertation, Old Dominion University.	pretest equivalence not established/ documented
Sing, Spell, Read, and Write	Bryan, L. & Turner, J.S. (1996, November). A comparison of the Sing, Spell, Read, and Write Program and the traditional approach to reading instruction. Paper presented at the twenty-fifth annual meeting of the mid-south educational research association, Tuscaloosa, Al.	pretest equivalence not established/ documented
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Schull School)	insufficient sample
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Tusculum College Study, East Tennessee).	no control group
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Fenton Avenue Elementary School).	pretest equivalence not established/ documented

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	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Freeport Elementary School).	pretest equivalence not established/ documented
	Bryan, L.D. (1996). A comparison of the Sing, Spell, Read, and Write Program and the traditional approach to reading instruction. Dissertation Abstracts International, 57 (4), 1541A. (UMI No. 9628619).	pretest equivalence not established/ documented
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://www.pearsonlearning.com/content/File/SSRW/SSRW_Compendium.pdf. (Study: D.D. Crawford Primary School).	pretest equivalence not established/ documented
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: PS 138 Queens).	insufficient sample, no control group
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://www.pearsonlearning.com/content/File/SSRW/SSRW_Compendium.pdf. (Study: Aberdeen and Taylorsville Schools).	no control group
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved fromhttp://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Century Elementary School).	no control group
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Chesapeake Self-Contained Learning Disabilities Study).	no control group
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Earle Elementary School).	no control group
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: San Francisco).	no control group

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	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Valley View Elementary School).	no control group
	Pearson Learning. (2002). Sing, Spell, Reading, & Write research compendium. Retrieved from http://pearsonlearning.com/communities/assets/research_center/00_SSRW_Compendium.pdf. (Study: Kerens Elementary School).	no control group
Scholastic Literacy Place	Pike, J., Butler, S., Grandjean, B. (2004). Comparing the effects of three reading programs on reading test scores. Laramie: WYSAC Technical Report No. SRC – 417.	pretest equivalence not established/ documented
Soar to Success	Anderson, P.F. (2002). A review of reading intervention programs and implementation of the Soar to Success Reading Intervention Program (Level 5). M.A. dissertation, Caldwell College	no control group
	Durand, B.A.C. (2002). *The effect of the Summer Reading Academy on the reading achievement of struggling third grade readers.* Unpublished doctoral dissertation, University of Houston.	no adequate control group
Sound Partners	Marchand-Martella, N., Martella, R., Nelson, J., Shelley, S., & Hatfield, D. (2002). Implementation of the Sound Partners Reading Program. *Journal of Behavioral Education, 11*(2), 117-130.	no control group.
Sound Reading	Wheeler, T., Volpicelli,V., & Peck, B. (n.d.). Sound Reading Elementary Activity Program: Third grade students. Newfield, NY: Newfield Elementary School.	no control group.
SWELL	Center, Y., Freeman, L., & Robertson, G. (2001). A longitudinal evaluation of the Schoolwide Early Language and LiteracyProgram (SWELL). In R. Slavin and N. Madden (Eds.), Success for All: Research and reform in elementary education, (111-147). Mahwah, NJ: Erlbaum.	pretest equivalence not established/ documented
Voyager	Ajwani, S. (2007). *The success of educational interventions in grades three and five in improving academic progress*. Unpublished doctoral dissertation, St. John's University (New York).	no adequate control group

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	McCain, K.G. (2008) *A comparison of the reading progress of English language speakers and learners, participating in an intensive, explicit, structured, phonics-based program. Unpublished doctoral dissertation*, The University of Arizona.	no untreated control group
	Pike, J., Butler, S., Grandjean, B. (2004). Comparing the effects of three reading programs on reading test scores. Laramie: WYSAC Technical Report No. SRC – 417.	pretest equivalence not established/ documented
WiggleWorks	Ross, J., Hogaboam-Gray, A., & Hannay, L. (2001). Collateral benefits of an interactive literacy program for grade 1 and 2 students. *Journal of Research in Computing in Education, 33*, 219-234.	no adequate outcome measure
Wordshark	Singleton, C., & Simmons, F. (2001). An evaluation of Wordshark in the classroom. *British Journal of Educational Technology, 32*(3), 317-330.	No control group.
Computer-assisted instruction		
Academy of Reading	Goodloe-Johnson , M., McKinley, N., Rose, J., & Kokkinis, A. (2006). Effectiveness of Academy of Reading in CCSD schools. Charleston, SC: CCSD Department of Statistics and Accountability.	pretest equivalence not established/ documented
Accelerated Reader	Barsema, M., Harms, L., Pogue, C. (2002). Improving Reading Achievement through the Use of Multiple Reading Strategies. [Electronic version], Master of Arts Research Project, Saint Xavier University and SkyLight Professional Development Field-Based Program.	no control group
	Bryant, W.E. (2008). Effect of the Accelerated Reader program on academic achievement. Unpublished doctoral dissertation, Northcentral University	no adequate outcome measure
	Bullock, J.C. (2005). *Effects of The Accelerated Reader on reading performance of third, fourth, and fifth-grade students in one western Oregon elementary school.* Unpublished doctoral dissertation, University of Oregon.	duration < 12 weeks
	Castillo, D.V. (2002). *The effect of Accelerated Reader on the reading comprehension of third-grade students.* Unpublished masters thesis, California State University, Dominguez Hills	inadequate outcome measure

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	DiLuzio, M. (2001). *California students achieve 28 percent higher Stanford 9 reading scores after only one semester of Accelerated Reader implementation.* Madison, WI: Renaissance Learning, Inc. Available online: <http://research.renlearn.com/research/pdfs/3.pdf>.	pretest equivalence not established/ documented
	Facemire, N.E. (2000). The effect of the Accelerated Reader on the reading comprehension of third graders. Unpublished master's thesis, Salem-Teikyo University. (ERIC No. ED442097). Available online: <http://eric.ed.gov>.	duration < 12 weeks
	Friesen, C. (2001). *Improving reading in grade three students.* Unpublished master's thesis, San Diego State University.	duration < 12 weeks
	Hart, S.S. (2007). *Accelerated Reader in a primary school: An evaluation of time spent on classroom implementation and student achievement.* Unpublished doctoral dissertation, Capella University	no untreated control group
	Holman, G. (1998). Correlational study to determine the effects of the Accelerated Reader program on the reading comprehension of fourth and fifth grade students in Early County, GA. Dissertation Abstracts International, 59 (3), 0771A (UMI No. 9826801).	no control group
	Holmes, C.T., & Brown, C.L. (2003). A controlled evaluation of a total school improvement process, School Renaissance. Paper presented at the National Renaissance Conference, Nashville, TN.	no untreated control group
	Howard, C. (1999). *An Evaluation of the Accelerated Reader Program in Grades 3-5 on Reading Vocabulary, Comprehension, and Attitude in an Urban Southeastern School District in Virginia.* Unpublished Doctoral Dissertation, Old Dominion University, VA.	no control group
	Johnson, R.A., & Howard, C.A. (2003). The effects of the Accelerated Reader program on the reading comprehension of pupils in grades three, four, and five. *The Reading Matrix, 3*(3), 87–96.	no untreated control group

	Kambarian, V.N. (2001). The role of Reading Renaissance instruction and the effect of a reading management system on at-risk students. Unpublished doctoral dissertation, Saint Louis University. (ERIC No. ED461835). Available online: <http://eric.ed.gov>.	pretest equivalence not established/ documented
	Knapik, P.J. (2002). The effect of the Accelerated Reader program on student achievement: A comparison study. Unpublished doctoral dissertation, University of Southern California.	pretest equivalence not established/ documented
	Kortz (2002). Measuring the effects of the accelerated reader program on third grade ELL's reading achievement in dual langauge programs	no adequate control group
	Kunz, J.R.R. (1999). Does the Accelerated Reader program have an impact on the improvement of children's reading scores in Illinois? Unpublished doctoral dissertation, Saint Louis University.	pretest equivalence not established/ documented
	Mallette, M., Henk, W., & Melnik, S. (2004). The influence of Accelerated Reader on the affective learning orientations of intermediate grade students. *Journal of Literacy Research, 36*(1), 72-75.	no untreated control group
	McGlinn, J., & Parrish, A. (2002). Accelerating ESL Students' Reading Progress with Accelerated Reader. *Reading Horizons, 42*(3), 175-189.	no control group
	Melton, C., Smothers, B., & Anderson, E., Fulton, R., et al (2004). A study of the effects of the Accelerated Reader program on fifth grade students' reading achievement growth. *Reading Improvement, 41*(1), 18-23.	pretest equivalence not established/ documented
	Nunnery, J., Ross, S., & Goldfeder, E. (2003). The Effect of School Renaissance on TAAS Scores in the McKinney ISD. Center for Research in Educational Policy, the University o f Memphis.	pretest equivalence not established/ documented
	Nunnery, J., Ross, S.M, & McDonald, A. (2006). A randomized experimental evaluation of the impact of Accelerated Reader/Reading Renaissance implementation on reading achievement in grades 3 to 6. *Journal of Education for Students Placed at Risk, 11*(1), 1-18.	no adequate outcome measure

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	Pappas, D. (2006). Interdependent Group Contingencies with Randomly Selected Components Applied to Class-wide Performance in the Accelerated Reader Program. Unpublished doctoral dissertation, The University of Tennessee.	no control group
	Paul, T., Swanson, S., Zhang, W., & Hehenberger, L. (1997). Learning Information System Effects on Reading, Language Arts, Math, Science, and Social Studies. Institute for Academic Excellence, Inc., Madison, WI.	pretest equivalence not established/ documented
	Paul, T., VanderZee, D., Rue, T., & Swanson, S. (1996). Impact of the Accelerated Reader Technology-Based Literacy Program on Overall Academic Achievement and School Attendance. Institute for Academic Excellence, Inc., Madison, WI.	pretest equivalence not established/ documented
	Putman, S. (2004). Effects of Accelerated Reader on reading motivation and achievement of fourth-grade students. Dissertation Abstracts International 65 (2), 415A. (UMI No. 3123939).	no control group
	Rodriguez-Blanco, Orfa (2006) *The impact of the Accelerated Reader Program on third grade/fourth grade bilingual students' TAKS reading scores in a South Texas border town.* Unpublished doctoral dissertation, Texas A&M University.	no control group
	Ross, S., & Nunnery, J. (2005). The Effect of School Renaissance on Student Achievement in Two Mississippi School Districts. Memphis, TN: University of Memphis, Center for Research in Educational Policy	pretest equivalence not established/ documented
	Ross, S., Nunnery, J., Avis, A., Borek, T. (2005). *The Effects of School Renaissance on Student Achievement in Two Mississippi School Districts: A Longitudinal Quasi-Experimental Study.* Center for Research in Educational Policy. The University of Memphis.	pretest equivalence not established/ documented
	Ross, S., Nunnery, J.,Goldfeder, E. (2004). *A Randomized Experiment on the Effects of Accelerated Reader/Reading Renaissance in an Urban School District: Final Evaluation Report.* Center for Research in Educational Policy, The Memphis University.	no adequate outcome measure

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	Sadusky, L.A., & Brem, S.K. (2002). *The integration of Renaissance programs into an urban Title I elementary school, and its effect on school-wide improvement*. Tempe: Arizona State University. Available online: <http://www.public.asu.edu/~sbrem/>.	no untreated control group
	Samuels, S.J., & Wu, Y. (2003). *The effects of immediate feedback on reading achievement.* Manuscript submitted for publication, University of Minnesota. Available online: <http://www.tc.umn.edu/~samue001/papers.htm>.	pretest differences > .5 SD
	Sorrell, C.A. (2003). *Reading rate and comprehension as a function of presentation mode (computerized vs. traditional) and processing speed.* Unpublished doctoral dissertation, The University of Tennessee.	insufficient sample size
	Steele, C. (2003). The effectiveness of the Accelerated Reader program on the reading level of second-grade students as measured by the student test for assessment of reading. Dissertation Abstracts International, 64 (3), 845A (UMI No. 3080207).	no control group
	Topping, K., & Paul, T. (1999). Computer-assisted assessment of practice at reading: A large scale survey using Accelerated Reader data. *Reading & Writing Quarterly 15*(3), 213-231.	no control group
	Topping, K., & Sanders, W. (2000). Teacher effectiveness and computer assessment of reading: Relating value-added and learning information system data. *School Effectiveness and School Improvement, 11*(3), 305-337.	no control group
	Toro, A. (2001). A Comparison of Reading Achievement in Second Grade Students Using the Accelerated Reading Program and Independent Reading. Unpublished Masters Thesis, Johnson Bible College.	duration < 12 weeks
	Vollands, S. R., Topping, K. J., & Evans, R. M. (1999). Computerized self-assessment of reading comprehension with the Accelerated Reader: Action Research. *Reading & Writing Quarterly, 15*, 197-211.	insufficient sample

The Best Evidence Encyclopedia is a free web site created by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education (CDDRE) under funding from the Institute of Education Sciences, U.S. Department of Education.

	Whitehead, J. (1999). Effect of the Reading Renaissance Approach or a Traditional Basal Approach on Reading Achievement in Third Grade. Unpublished Masters Thesis, Mercer University.	no evidence of initial equivalence
CALL	Beaird, C.K. (2007). The effects of computer-assisted language learning on English language learners with and without disabilities in an elementary school setting. Unpublished doctoral dissertation, University of Nevada, Las Vegas.	insufficient sample
	Nwogu, K., & Nwogu, E. (1992). Computers and ESL in the West Midlands. *Language Learning Journal, 6*, 74-76.	no control group
CCC/SuccessMaker	Brush, T. A. (1998). An evaluation of the effectiveness of the Computer Curriculum Corporation's (CCC) foundations and exploreware software on students in grades one through five. Unpublished manuscript.	Duration < 12 weeks, no untreated control group.
	Brush, T., Armstrong, J., Barbrow, D., & Ulintz, L. (1999). Design and delivery of integrated learning systems: their impact on student achievement and attitudes. *Journal of Educational Computing Research, 21*, 475-486.	no untreated control group
	Gallagher, E.M. (1997). *Utilization of an ILS to increase reading comprehension.* Unpublished doctoral dissertation, Northern Illinois University.	duration < 12 weeks
	Humphries, J. (1997). *Technology literacy challenge grant application, Pamlico County Schools*. Pamlico County Schools, NC.	no control group
	Iserhagen, J. (1999). Technology: A major catalyst for increasing learning. *T.H.E. Journal, 27*(1), 30, 32, 34, 36, 38.	no control group
	Levitt, J. (2000). An interim evaluation of operation safety net, a five year project, 1996-1997, 200-02, three year report 1996-98, 1998-99. Miami, FL: Miami-Dade County Public Schools, Office of Evaluation and Research.	pretest equivalence not established/ documented
	McWhirt, R., Mentavlos, M., Rose-Baele, J.S., & Donnelly, L. (2003). Evaluation of the implementation and effectiveness of SuccessMaker. Charleston, SC: Charleston County School District.	no adequate control group

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	Metis Associates. (1996-99). *Community School District 6 [New York City schools] Integrated Technology Reading Support Project: First, second and third year evaluation report[s].* New York, NY: Metis Associates.	no control group
	Norton, P. & Resta, V. (1986). Investigating the Impact of Computer Instruction on Elementary Students' Reading Achievement. *Educational Technology, 26*(3), 35-41.	no control
	Ortmann, L.N. (1983). *The effectiveness of supplementary computer-assisted instruction in reading at the 4-6 grade level.* Unpublished doctoral dissertation, University of Pacific.	pretest differences > .5 SD
	Perez, K.J. (1998). Predictors of achievement in math and reading by elementary ESOL and non-ESOL students using a computer-based integrated learning system. Unpublished doctoral dissertation, Barry University School of Education.	no control group
	Phillips, C. (2001). *The Effects of an Integrated Computer Program on Math and Reading Improvement in Grades Three Through Five.* Unpublished doctoral dissertation, University of Tennessee, Knoxville.	no untreated control group
	Pierre, F. & Germain, M. (2005). Integrated Learning Systems (ILS): A Comparison of Two ILS Measures of Achievement in Reading and Florida's Comprehensive Assessment Test (FACT). In C. Crawford et al. (Eds.), Proceedings of Society for Information Technology and Teacher Education International Conference 2005 (pp. 170-174). Chesapeake, VA: AACE.	no control group
	Simon, C. & Tingey, B. (2001). Seminole County Public Schools relationship study for 2000-2001. Pearson Educational Technologies	no control group
	Tingey, B. & Thrall, A. (2000). Duval County Public Schools evaluation report for 1999-2000. Duval County, FL, (Pearson Education Technologies 2000).	no control group
	Tingey, B. and Simon, C. (2001). Relationship study for SuccessMaker levels and SAT-9 in Hueneme 3 Elementary District, school year 2000-2001, with growth analysis. Pt. Hueneme, CA (Pearson Education Technologies 2001).	no control group

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	Underwood, J. (2000). A comparison of two types of computer support for reading development. *Journal of Research in Reading, 23*(2), 136–148.	Insufficient information on pretest scores.
	Underwood, J., Cavendish, S., Dowling, S., Fogelman, K., & Lawson, T. (1996). Are Integrated Learning Systems Effective Learning Support Tools? *Computers & Education, 26*(1-3), 33-40.	pretest equivalence not established/ documented
CASTLE	Sung et al (2007). Improving children's reading comprehension and use of strategies through computer-based strategy training.	pretest equivalence not established/ documented
CD ROM books	Adam, N., & Wild, M. (1997). Applying CD ROM interactive storybooks to learning to read. *Journal of Computer Assisted Learning, 13*, 119-132.	Duration <12 weeks
	Greenlee-Moore, M. E., & Smith, L. L. (1996). Interactive computer software: The effects on young children's reading achievement. *Reading Psychology, 17,* 43-64.	duration < 12 weeks
	Matthew, K. (1996). The impact of CD ROM storybooks on children's reading comprehension and reading attitude. *Journal of Educational Multimedia and Hypermedia, 5*, 379-94.	Duration < 12 weeks; tests not standardized
	Matthew, K. (1997). A comparison of the influence of interactive CD ROM story books and traditional print storybooks on reading comprehension. *Journal of Research in Computing in Education, 29*, 263-75.	duration < 12 weeks
	Stine, H.A. (1993). The effects of CD-ROM interactive software in reading skills instruction with second-grade Chapter 1 students. Dissertation Abstracts International, 54 (9), 3388A. (UMI No. 9400115).	pretest differences > .5 SD
	Trushell, J., Burrell, C., & Maitland, A. (2001). Year 5 pupils reading an 'interactive storybook' on CD ROM: losing the plot? British Journal of Educational Technology, 32, 389-401.	No control group
	Wild, M. (1997). Using CD Rom storybooks to encourage reading development. Set Special 1997: Language and Literacy, 6, 1-4.	No control group

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DECtalk	Leong, C. (1995). Effects of on-line reading and simultaneous DECtalk auding in helping below-average and poor readers comprehend and summarize text. *Learning Disability Quarterly, 18*, 101-116.	no untreated control, insufficient sample
Earobics	Cognitive Concepts, Inc. (2000). Earobics Early Literacy Instruction: Chicago Public Schools pilot research report. Retrieved from http://www.earobics.com/results/CPSOutcomes.pdf	no control group
	Cognitive Concepts, Inc. (2002). Outcomes report: District of Columbia Public Schools, Washington, DC. Retrieved from http://www.earobics.com/results/la.php	no control group
	Cognitive Concepts Inc (2003). Outcomes Report: Los Angeles Unified School District.	no adequate outcome measure
	Kerrin, R.G. (2001). *The effects of a computer program on the phonological processing and reading skills of students with language-learning disabilities.* Unpublished doctoral dissertation, University of New Orleans.	no control group
	Pokorni, J., Worthington, C., & Jamison, P. (2004). Phonological awareness intervention: Comparison of Fast ForWord, Earobics, and LiPS. *The Journal of Educational Research, 97*(3), 147-157.	duration < 12 weeks,
Electronic Bookshelf	Peters, R. (1998). *The effect of giving class time for reading on the reading achievement of fourth graders and the effect of using a computer-based reading manangement program on the reading achievement of fifth graders*. Unpublished doctoral dissertation, University of North Texas.	no untreated control, insufficient sample
ElectroText	Horney, M., Anderson Inman, L. (1999). Supported text in electronic reading environments. *Reading and Writing Quarterly: Overcoming Learning Diffiiculties, 15*, 127-168.	insufficient sample
Fast ForWord	Borman, G. D., & Benson, J. (2006). Can brain research and computers improve literacy? A randomized field trial of the Fast ForWord Language computer-based training program (WCER Working Paper No. 2006-5). Madison: University of Wisconsin–Madison, Wisconsin Center for Education Research.	duration < 12 weeks

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	Overbay, A., & Baenen, N. (2003). Fast ForWord® evaluation, 2002–03 (Eye on Evaluation, E&R Report No. 03.24). Raleigh, NC: Wake County Public School System.	pretest equivalence not established/ documented
	Pokorni, J., Worthington, C., & Jamison, P. (2004). Phonological awareness intervention: Comparison of Fast ForWord, Earobics, and LiPS. *The Journal of Educational Research, 97*(3), 147-157.	duration < 12 weeks,
	Scientific Learning Corporation (2003). Cobb County School District, Georgia. Oakland, CA: Author.	duration < 12 weeks
	Scientific Learning Corporation (2007). Improved Reading Skills by Students in the Niagara Falls City School District who used Fast ForWord¨ Products, MAPS for Learning: Educator Reports, 11(24): 1-10.	no control group
	Scientific Learning Corporation. (2003). Improved language and early reading skills of English language learners in the Paradise Valley Unified School District who used Fast ForWord Language. Maps for Learning: Educator Reports, 7 (7), 1-5.	no control group
	Scientific Learning Corporation. (2003). Improved reading skills by students in the exceptional student education program in the Osceola County School District who used Fast ForWord Language. MAPS for Learning: Educator Reports, 7 (1), 1-4.	no control group
	Scientific Learning Corporation. (2003). Improved reading vocabulary and comprehension skills by students in the School District of Philadelphia who used Fast ForWord Language. MAPS for Learning: Educator Reports, 7 (6), 1-4.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Improved academic achievement by students in the Manchester City School District, Tennessee, who used Fast ForWord Products. MAPS for Learning: Educator Reports, 8 (7), 1-5.	no control group
	Scientific Learning Corporation. (2004). Improved academic skills of low-performing students in the Pacifica School District who used Fast ForWord products. Maps for Learning: Educator Reports, 8 (1), 1-7.	no control group

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	Scientific Learning Corporation. (2004). Improved cognitive and early reading by students in the Berlin School District who used Fast ForWord products. Maps for Learning: Educator Reports, 8 (31), 1-5.	insufficient sample
	Scientific Learning Corporation. (2004). Improved cognitive and early reading skills by students in the Stamford County School District who used Fast ForWord products. Maps for Learning: Educator Reports, 8 (30), 1-4.	no control group
	Scientific Learning Corporation. (2004). Improved language and early reading skills by students in the Cherry Hill Public School District in New Jersey who used Fast ForWord Language. Maps for Learning: Educator Reports, 8 (4), 1-4.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Improved language and early reading skills by students in the Harrisburg School District in New Jersey who used Fast ForWord Language. Maps for Learning: Educator Reports, 8 (10), 1-5.	no control group
	Scientific Learning Corporation. (2004). Improved language and early reading skills by students who used Fast ForWord Language to Reading. Maps for Learning: Educator Reports, 8 (1), 1-4.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Improved language and early reading skills by students who used Fast ForWord Middle to Reading 3. Maps to Learning: Educator Reports, 8 (3), 1-3.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Improved language and reading skills by students at Title I schools who used Fast ForWord products. Maps to Learning: Educator Reports, 8 (16), 1-8.	no control group
	Scientific Learning Corporation. (2004). Improved language and reading skills by students in the Boone County School District who used Fast ForWord products. Maps to Learning: Educator Reports, 8 (17), 1-7.	no control group

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	Scientific Learning Corporation. (2004). Improved language and reading skills by students in the Los Banos Unified School District who used Fast ForWord products. Maps to Learning: Educator Reports, 8 (18), 1-6.	no control group
	Scientific Learning Corporation. (2004). Improved language and reading skills by students in the Puyallup School District who used Fast ForWord products. Maps to Learning: Educator Reports, 8 (11), 1-6.	no control group
	Scientific Learning Corporation. (2004). Improved language skills by children with low reading performance who usd Fast ForWord Language. Maps for Learning: Product Report, 3 (1), 1-13.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Improved language skills by students in the Brainerd School District who used fast ForWord products. Maps for Learning: Educator Report, 8 (29), 1-5.	no adequate outcome measure
	Scientific Learning Corporation. (2004). Improved Ohio reading proficiency test scores by students in the Springfield City School District who used fast ForWord products. Maps for Learning: Educator Report, 8 (8), 1-6.	insufficient information
	Scientific Learning Corporation. (2004). Improved reading abilities by students in the Bethlehem Area School District in Pennsylvania who used fast ForWord products. Maps for Learning: Educator Report, 9 (3), 1-4.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Improved reading abilities by students in the Pawhuska and Harlandale School Districts who used Fast ForWord to Reading 3. Maps for Learning: Educator Report, 7 (13), 1-3.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Improved reading achievement by students in the School District of Philadelphia who used Fast ForWord products. Maps for Learning: Educator Report, 8 (21), 1-6.	insufficient information
	Scientific Learning Corporation. (2004). Improved reading comprehension by students in the Trumbull Public Schools who used fast ForWord products. Maps for Learning: Educator Reports, 8 (34), 1-5.	no control group

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	Scientific Learning Corporation. (2004). Improved reading skills by students who used Fast ForWord to Reading 3. Maps for Learning: Product Reports, 8 (3), 1-3.	duration < 12 weeks
	Scientific Learning Corporation. (2004). Reading skills improved by students at Centerville Elementary School who used Fast ForWord to Reading 3. Maps for Learning: Educator Reports, 8 (2), 1-5.	no control group
	Scientific Learning Corporation. (2005). Improved academic achievement by students in the Christina School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (7), 1-10.	no control group
	Scientific Learning Corporation. (2005). Improved academic achievement by students in the Joshua Independent School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (19), 1-5.	no control group
	Scientific Learning Corporation. (2005). Improved Early Reading Skills by Students in Springfield City School District who used Fast ForWord® to Reading 1, MAPS for Learning: Educator Reports, 9(25)1-5.	duration < 12 weeks
	Scientific Learning Corporation. (2005). Improved early reading skills by students in three districts who used FastForWord to Reading 1, MAPS for Learning: Product Reports, 9(1), 1-5.	no adequate outcome measure
	Scientific Learning Corporation. (2005). Improved reading achievement by students in a Texas school district who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (24), 1-6.	no control group
	Scientific Learning Corporation. (2005). Improved reading achievement by students in Oregon City School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (20), 1-5.	no control group
	Scientific Learning Corporation. (2005). Improved reading achievement by students in the Miami-Dade County Public Schools who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (10), 1-5.	no control group

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	Scientific Learning Corporation. (2005). Improved Reading Achievement by Students in the School District of Philadelphia who used Fast ForWord® Products During the 2004 - 2005 School Year, MAPS for Learning: Educator Reports, 9(30): 1-8.	insufficient information
	Scientific Learning Corporation. (2005). Improved reading achievement by students in the Washington Local School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (9), 1-6.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Anne Arundel County Public Schools who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (4), 1-5.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Clover Park School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (6), 1-7.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the El Campo Independent School District who used Fast ForWord products with a 30-minute protocol. Maps for Learning: Educator Reports, 9 (35), 1-4.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the El Campo Independent School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (29), 1-5.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Erlanger-Elsmere Independent School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (22), 1-4.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Hingham Public School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (26), 1-4.	no control group

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	Scientific Learning Corporation. (2005). Improved reading skills by students in the La Joya Independent School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (32), 1-7.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Milford City School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (1), 1-4.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Portsmouth School District who used Fast ForWord products. Maps for Learning: Educator Reports, 10 (8), 1-4.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Poteau School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (16), 1-5.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Todd County School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (14), 1-8.	duration <12 weeks
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Weakley County School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (21), 1-6.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Wichita Falls Independent School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (13), 1-4.	no control group
	Scientific Learning Corporation. (2005). Improved reading skills by students in the Williamsport Area School District who used Fast ForWord products. Maps for Learning: Educator Reports, 9 (15), 1-4.	no control group
	Scientific Learning Corporation. (2006). Improved academic achievement by students in the Hamilton County School District who used Fast ForWord products. Maps for Learning: Educator Reports, 10 (1), 1-4.	no control group

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	Scientific Learning Corporation. (2006). Improved Early Reading Skills by Students in Manchester City School District who used Fast ForWord® Products, MAPS for Learning: Educator Reports, 10(6): 1-6.	duration < 12 weeks
	Scientific Learning Corporation. (2006). Improved language and reading skills by students in NSW Australia who used Fast ForWord products. Maps for Learning: Educator Reports, 10 (3), 1-5.	no control group
	Scientific Learning Corporation. (2006). Improved reading skills and behavior in primary school students who used Fast ForWord Language at a Singapore Public School. Maps for Learning: Educator Reports, 10 (5), 1-6.	no control group
	Scientific Learning Corporation. (2006). Improved reading skills by students in Boone County School District who used Fast ForWord products. Maps for Learning: Educator Reports, 10 (15), 1-7.	no control group
	Scientific Learning Corporation. (2006). Improved Reading Skills by Students in the Shelby County School District who used Fast ForWord® Products, MAPS for Learning: Educator Reports, 10(16): 1-5.	no control group
	Scientific Learning Corporation. (2007). Improved Reading Skills by Students in Ireland who used Fast ForWord® Products, MAPS for Learning: Educator Reports	no control group
	Scientific Learning Corporation. (2007). Improved Reading Skills by Students in the South Madison Community School Corporation who used Fast ForWord® Products, MAPS for Learning: Educator Reports, 11(34): 1-7.	duration unclear
	Scientific Learning Corporation. (2007). Improved Reading Skills by Students in the Worcester County Public School District who used Fast ForWord® Products, MAPS for Learning: Educator Reports	no control group
	Scientific Learning Corporation. (2008). Improved Reading Skills by Students in the Perrysburg Exempted Village Schools who used Fast ForWord® Products, MAPS for Learning: Educator Reports, 12(2): 1-6.	duration < 12 weeks (sometimes)

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	Sharp, M.V.T. (2007). *An evaluation of the Fast ForWord program in the Christina School District.* Unpublished doctoral dissertation, University of Delaware.	no control group
	Slattery, C. (2003). *The impact of a computer-based training system on strengthening phonemic awareness and increasing reading ability level.* Unpublished doctoral dissertation , Widener Univeristy.	Duration <12 weeks
	Slattery, C. (2003). *The impact of a computer-based training system on strengthening phonemic awareness and increasing reading ability level.* Unpublished doctoral dissertation, Widener Univeristy.	duration < 12 weeks
	Troia, G. (2004). Migrant Students with Limited English Proficiency: Can Fast ForWord Language Make a Difference in Their Language Skills and Academic Achievement? *Remedial and Special Education, 25*(6), 353-366	duration < 12 weels
	Troia, G., & Whitney, S. (2002). A close look at the efficacy of Fast ForWord Language for children with academic weaknesses. *Contemporary Educational Psychology, 28*(4), 465-494.	duration < 12 weels
Fluent Reader	Palumbo, T.J. (2004). *Effects of the Fluent Reader program on reading performance.* Unpublished master's thesis, University of Minnesota.	Duration < 12 weeks
Hartley Courseware	Goldman, J. (1988). The Use of Computers versus Basal Readers for Reading Comprehension in the Primary Grades.	duration < 12 weeks
Headsprout Early Reading	Layng, T., Twyman, J., & Stikeleather, G. (2004). Selected for success: How Headsprout Reading Basics teaches beginning reading. In D.J. Moran & R. Malott (Eds.), Empirically supported educational methods. St. Louis, MO: Elsevier Science/Academic Press.	no control group
Hint and Hunt	Jones, K., Torgesen, J., & Sexton, M. (1987). Using computer guided practice to increase decoding fluency in learning disabled children: a study using the Hint and Hunt 1 program. *Journal of Learning Disabilities, 20*, 122-128.	Duration < 12 weeks
Hypermedia	Higgins, K., & Boone, R. (1991). Hypermedia CAI: A supplement to an elementary basal reading program. *Journal of special education technology, 11*(1), 1-15.	insufficient information

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Jostens/Compass Learning	Bedell, J.P. (1998). *Effects of reading and mathematics software formats on elementary students' achievement.* Unpublished doctoral dissertation, University of Miami.	no untreated control group
	Brandt, W.C. & Hutchinson, C. (2005). *Romulus Community Schools comprehensive school reform evaluation.* Naperville, IL: Learning Point Associates.	no adequate control group
	Brehmer-Evans, K.A. (1995). *The effects of the integrated learning system on reading and mathematics achievement of magnet program students in the school district of the city of River Rouge.* Unpublished doctoral dissertation, Wayne State University.	pretest equivalence not established/ documented - program began before pretest
	Clouse, R. (1991). Teaching and learning with computers: a classroom analysis. *Journal of Educational Technology Systems, 20*, 281-302.	no adequate control group
	Compass Learning. (2005). *Compass Learning Odyssey School Effectiveness Report: Boone County School District, Florence, Kentucky.* San Diego CA: Compass Learning.	pretest equivalence not established/ documented
	Compass Learning (2004). An analysis of Compass Learning Student Achievement Outcomes in Pocatello, Idaho, 2002-2003, Pocatello School District.	no adequate control group
	Compass Learning. (2006). *Compass Learning Odyssey School Lillie Burney Elementary. Hattiesburg Public School District, Hattiesburg, Mississippi.* Austin, TX: Compass Learning.	no control group
	Compass Learning Inc. (2003). Partnered study one, a study of grade 3 and grade 5 reading and math performance in a rural school district in the SE, 2002. San Diego, CA: Author.	no control group
	CompassLearning® Research and Osceola County School District (2003). *Osceola County School District 2001-2002 and 2002-2003, Research Report.* San Diego, CA: Compass Learning.	no control group
	Isbell, S.K. (1993). *Impact on learning of computer-assisted instruction when aligned with classroom curriculum in second-grade mathematics and fourth-grade reading.* Unpublished doctoral dissertation, Baylor University.	no untreated control group

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	Leiker, V. (1993). *The Relationship Between an Integrated Learning System, Reading and Mathematics Achievement, Higher-order Thinking Skills and Certain Demographic Variables: A Study Conducted in Two School Districts.* Unpublished doctoral dissertation, Baylor University.	pretest equivalence not established/ documented
	Moody, E. (1994). Implementation and Integration of a Computer-Based Integrated Learning System in an Elementary School. Unpublished doctoral dissertation, Florida State University.	no control group
	Roy, J. (1993). *An Investigation of the Efficacy of Computer-Assisted Mathematics, Reading, and Language Arts Instruction*. Unpublished doctoral dissertation, Baylor University.	pretest equivalence not established/ documented
Kurzweil 3000	Weiland, C.J. (2008). *Effects of Kurzweil 3000 as part of a reading program on the reading fluency and comprehension of four elementary-aged students with ADHD.* Unpublished doctoral dissertation, Miami University.	insufficient sample
Lexia	Macaruso, P., Hook, P., & McCabe, R. (2006). The Efficacy of Computer-Based Supplementary Phonics Programs for Advancing Reading Skills in At-Risk Elementary Students. *Journal of Research in Reading, 29*(2), 162-172.	insufficient sample
	Ruth, R. (1997). Remedial reading instruction using the Accelerated Learning Program. Retrieved from http://www.lexialearning.co.nz/library/source/research/robert_ruth_1997.pdf.	no control group
	Stevens, D. (2000, March). Leveraging technology to improve test scores: A case study of low-income Hispanic students. Paper presented at the International Conference on Learning with Technology, Cambridge, MA.	pretest equivalence not established/ documented
Lightspan/PLATO	Giancola, S. et al (1999). Evaluation Results of the Delaware Challenge Grant Project Lead Education Agency: Capital School District. Newark, DE: University of Delaware.	no adequate control group
	Interactive, Inc. (2001). Documenting the effects of Lightspan Achieve Now! in the Hempstead Union Free School District: Year 2 report. Huntington, NY: Lightspan.	pretest equivalence not established/ documented

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	Rodriguez, N. (2004). The effect of the PLATO instructional program on reading achievement among second-grade Hispanic students.Unpublished doctoral dissertation, Texas A&M University - Corpus Christi and Texas A&M University, Kingsville.	No control group
LiPS	Pokorni, J., Worthington, C., & Jamison, P. (2004). Phonological awareness intervention: Comparison of Fast ForWord, Earobics, and LiPS. *The Journal of Educational Research, 97*(3), 147-157.	duration < 12 weeks,
My Reading Coach	Bliss, J., Larrabee, J., & Schnitzler, P. (2002). The performance of a new computer-based reading tutor. Retrieved from Mindplay web site: http://74.125.45.104/search?q=cache:b4Y0iyd1GUsJ:images.pcmac.org/Uploads/ELSSystems/ELSSystems/Divisions/DocumentsCategories/Documents/Comp-BasedReadingTeacher.pdf+The+performance+of+a+new+computer-based+reading+tutor&hl=en&ct=clnk&cd=1&gl=us	no control group
	Crews, J. (2003). Helping Poor Readers: A Case Study of a Computer Assisted Instruction Reading Tutorial. *Proceedings of the Ninth Americas Conference on Information System, Tampa, Florida: The University of Tampa.*	no control group
	Crews, J.M. (2003a). An Investigation of the Effectiveness of Using My Reading Coach to Improve 2nd Graders Reading Comprehension. Unpublished manuscript available from MindPlay.	pretest differences > .5 SD
	Neupert, S. (2003). Evaluating the *My Reading Coach* Program. Retrieved 3/22/07 from <http://www.mindplay.com/Results/Research/tabid/74/Default.aspx>	no control group
Orchard software	Ohio Learning Systems. (2004). *Ashtabula Area City Schools, Orchard Software Reading Intervention Project January 2004 to June 2004, Research report.*	no control group
PAL	Newell, A. (1992). Increasing literacy levels by the use of linguistic prediction. *Child Language Teaching and Therapy, 8*, 138-187.	no control group

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Project CHILD	Bird, J.B.H. (1999). An academic comparison between Project CHILD and the traditional classroom. Dissertation Abstracts International, 60 (3), 0633A. (UMI No. 9922208).	pretest equivalence not established/ documented
	Butzin, S. (2001). Using instructional technology in transformed learning environments: an evaluation of Project CHILD. *Journal of Research on Technology in Education, 33*, 367-373.	pretest equivalence not established/ documented
	Butzin, S., King, F. J. (1992). An evaluation of Project CHILD. *Florida Technology in Education Quarterly, 4*(4), 45 - 63.	pretest equivalence not established/ documented
	Florida TaxWatch's Comparative Evaluation of Project CHILD: Phase IV, 2005 http:www.floridataxwatch.org/projchild/projchild4.html	pretest equivalence not established/ documented
	Kromhout, O. M. & Butzin, S. M. (1993). Integrating computers into the elementary school curriculum: An evaluation of nine Project CHILD model schools. *Journal of Research of Computing in Education, 26*(1), 55-70.	pretest equivalence not established/ documented
	Orr, C. (1991). Evaluating restructured elementary classes: Project CHILD summative evaluation. Paper presented at the Southeast Evaluation Association, Tallahassee, FL.	pretest equivalence not established/ documented
Project LISTEN's Reading Tutor	Aist, G., Kort, B., Reilly, R., Mostow, J., & Picard, R. (2002, June). Experimentally augmenting an intelligent tutoring system with human supplied capabilities: Adding human-provided emotional scaffolding to an automated reading tutor that listens. Paper presented at the meeting of the Workshop on Empirical Methods for Tutorial Dialogue Systems, San Sebastian, Spain.	inadequate outcome measure
	Beck, J., Jia, P., & Mostow, J. (2003, June). Assessing student proficiency in a reading tutor that listens. Paper presented at the meeting of the International Conference on User Modeling, Johnstown, PA.	no control group
	Beck, J., Mostow, J., Cuneo, A., & Bey, J. (2003, July). Can automated questioning help children's reading comprehension? Paper presented at the meeting of the International Conference on Artificial Intelligence in Education, Sydney, Australia.	no control group

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	Jia, P., Beck, J., & Mostow, J. (2002, June). Can a reading tutor that listens use inter-word latency to assess a student's reading ability? Paper presented at the meeting of the Workshop on Creating Valid Diagnostic Assessments, San Sebastian, Spain.	pretest equivalence not established/ documented
Read 180	Barbato, P. (2006). A Preliminary Evaluation of the Read 180 Program. Unpublished doctoral dissertation, Fairleigh Dickinson University.	pretest differences > .5 SD
	Pierre, F. & Germain, M. (2005). Integrated Learning Systems (ILS): A Comparison of Two ILS Measures of Achievement in Reading and Florida's Comprehensive Assessment Test (FACT). In C. Crawford et al. (Eds.), Proceedings of Society for Information Technology and Teacher Education International Conference 2005 (pp. 170-174). Chesapeake, VA: AACE.	insufficient sample
	Thomas, J. Reading Program Evaluation: Read 180 Grades 4-8 November, 2003	no control group
	White, R., Williams, I., & Haslem, M. (2005). Performance of District 23 students participating in Scholastic READ 180. Washington, DC: Policy Study Associates.	pretest equivalence not established/ documented
RITA computer system	Nicolson, R., Fawcett, A., & Nicolson, M. (2000). Evaluation of a computer-based reading intervention in infant and junior schools. *Journal of Research in Reading, 23*, 194-209.	duration < 12 weeks
Reading CAT	Chambers, B., Abrami, P., McWhaw, L, & Therrien, M. (2001). Developing a computer assisted tutoring program to help children at risk learn to read. *Educational Research and Evaluation, 7*, 223-239.	program evaluation not about achievement
Soliloquy Reading Assistant	Adams, M.J. & Sullivan-Hall, P. (in preparation). Speech-recognition Software for Building the Fluency of Students in Grades 2-5.	insufficient information
Wasatch Educational System	Gilman, D. & Brantley, T. (1988). The Effects of Computer-Assisted Instruction on Achievement, Problem-Solving Skills, Computer Skills, and Attitude. A Study of an Experimental Program at Marrs Elementary School, Mount Vernon, Indiana.	pretest equivalence not established/ documented
What on Earth®	Fabry, D. (1998). *The Impact of Interactive Educational Multimedia Software on Cognition.* Unpublished doctoral dissertation, University of Colorado, Denver.	no control group

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Wicat	Riley, D.L.R. (1989). *Computer-assisted instruction and its effect on reading comprehension*. Unpublished doctoral dissertation, Memphis State University.	insufficient information
	Norton, P. & Resta, V. (1986). Investigating the Impact of Computer Instruction on Elementary Students' Reading Achievement. *Educational Technology, 26*(3), 35-41.	no control
Word processing	Grejda, G., & Hanafin, M. (1992). Effects of word processing on sixth graders' holistic writing and reivisons. *Journal of Educational Research, 85*, 144-149.	not a reading study
Work Within the Literacy Hour	Watts, M., & Lloyd, C. (2001). Evaluating a classroom multimedia programme in the teaching of literacy. Educational Research and Evaluation, 7, 35-52.	pretest equivalence not established/ documented
Writing to Read	Jones, Z. (1993). Writing to Read: Computer-assisted instruction and reading achievement. (ERIC No. ED365980).	insufficient sample
	Jones, H., (1991). The effects of the Writing to Read computer program on reading achievement and atttides of second grade children. Unpublished doctoral dissertation, Texas Women's University.	pretest equivalence not established/ documented
	Deboe, M. et al. (1984). Writing to Read in the Portland public schools-1983-84 evaluation report. Portland Public Schools, OR: Research and Evaluation Dept. (ERIC No. ED255552)	no adequate outcome measure
	Casey, J. (1992). Writing to Read in the classroom: A literature-based writing literacy environment. Simi Star Project Report (ERIC No. ED367952).	no control group.
	New York City Board of Education: Office of Research, Evaluation, and Assessment. (1990). Evaluation Section Report: Writing to Read, 1988-1989.	no adequate outcome measure
	Midobuche, R.M. (1996). *The effects of the Writing to Read computer-assisted language program on the English language skills of language minority students.* Unpublished doctoral dissertation, Texas A&M University - Kingsville	Insufficient sample
Writing to Write	Chambless, J., & Chambless, M. (1994). The Impact of Instructional Technology on Reading/Writing Skills of 2nd Grade Students. *Reading Improvement, 31, 151-155.*	pretest equivalence not established/ documented

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CAI	Adamson, R.D. (1997). *A study to determine the efficacy of a computer program designed to help students increase their ability to decode three-letter, short-A, consonant-vowel-consonant (c-v-c) words*. Unpublished doctoral dissertation, The University of New Mexico.	No control group
	Anelli, C. (1977). *Computer-assisted instruction and reading achievement of urban third and fourth graders.* Unpublished doctoral dissertation, Rutgers University.	No untreated control group
	Bauer, H. (2005). *The relationship between technology integration reading instruction and reading achievement in high-performing campuses as reported by PEIMS and third grade classroom teachers in selected South Texas.* Unpublished doctoral dissertation, Texas A&M University.	no control group
	Boone, R. & Higgins, K. (1993). Hypermedia Basal Readers: Three Years of School-based Research. *Journal of Special Education Technology, 12*(2), 86-106.	no adequate reading measure
	Brown, E.M. (1993). *The effects of linear vs. nonlinear computer assisted instruction on beginning reading skills of second-grade, LEP students.* Unpublished maters thesis, University of Houston.	duration < 12 weeks
	Calvert, S., Watson, J., Brinkley, V., & Penny, J. (1990). Computer presentational featuers for poor readers' recall of infromation. *Journal of Educational Computing Research, 6*, 287-298.	duration < 12 weeks
	Clements, D. (1986). Effects of Logo and CAI Environments on Cognition and Creativity. *Journal of Educational Psychology, 78*(4), 309-318.	insufficient sample
	Dahn, V. (1992). The Effect of Integrated Learning Systems on Mathematics and Reading Achievement and Student Attitudes in Selected Salt Lake City, Utah, Elementary Schools. Unpublished doctoral dissertation, Brigham Young University.	pretest equivalence not established/ documented
	Davidson, J. & Noyes, P. (1995). Computer-Generated Speech-Feedback as Support for Reading Instruction. *Support for Learning, 10*(1), 35-39.	duration < 12 weeks

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	DeLarm, S.W. (1992). *A comparison of MMAT reading scores for students whose traditional reading instruction was supplemented with computer-assisted reading instruction.* Unpublished master's thesis, Northeast Missouri State University.	no control group
	Douglas, G. (2001). A comparison between reading from paper and computer screen by children with a visual impairment. *British Journal of Visual Impairment, 19*, 29-34.	no control group
	Edmundson, C.L. (1996). A study of limited english proficient students and computer-assisted english reading. Unpublished doctoral dissertation, Pepperdine University.	no control group
	Foley M.M. (1994). *A comparison of computer-assisted instruction with teacher-managed instructional practices.* Unpublished doctoral dissertation, Columbia University Teachers College.	insufficient sample
	Hallett, M. (1984). The Effectiveness of Microcomputer Assisted Instruction for Fourth, Fifth, and Sixth Grade Students in Spelling, Language, Skill Development, and Math. Unpublished doctoral dissertation, University of Idaho.	no adequate outcome measure
	Hamilton, V. (1995). Computers and reading achievement. ERIC No ED382923.	pretest equivalence not established/ documented
	Hawley, S.W. (2000). *A comparative analysis of a computer-assisted and a teacher-directed supplemental vocabulary program.* Unpublished doctoral dissertation, Delta State University.	methodological inconsistency
	Heise, B., Papalewis, R., & Tanner, D. (1991). Building Base Vocabulary with Computer-Assisted Instruction. *Teacher Education Quarterly, 55-62.*	insufficient sample
	Holland, A.R. (2003). *Computer-assisted instruction: Reading beyond games for comprehension skills development.* Unpublished master's thesis, California State University, Dominguez Hills.	no control group
	Icabone, D., & Hannaford, A. (1986). A comparison of two methods of teaching unknown to fourth graders: Microcomputer and tutor. *Educational Technology, 26*(2), 36-39.	duration < 12 weeks

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	Kang, S. (1995). The effects of computer enhanced vocabulary lessons on achievement of ESL grade school children. *Computers in the Schools, 11*(3), 25-34.	no adequate outcome measure
	Karvelis, B.A. (1988). *The effect on elementary student achievement of computer-assisted and computer-managed instruction.* Unpublished doctoral dissertation, University of San Francisco.	pretest equivalence not established/ documented
	Kim, H.S. (2003). *Adaptive computer software that supports reading comprehension: An exploratory analysis of instructional and design implication*. Unpublished doctoral dissertation, Stanford University.	pretest equivalence not established/ documented
	Levy, M.H. (1985). An evaluation of computer assisted instruction upon the achievement of fifth grade students as measured by standardized tests. Unpublished Doctoral Dissertation, University of Bridgeport.	students not matched at pretest time
	Lewin, C. (2000). Exploring the effects of talking book software in UK primary classrooms. *Journal of Research in Reading, 23*, 149-157.	duration < 12 weeks
	Mooij (1990). Effects of a computer program on the development of reading performance	insufficient sample size
	Moore, M., & Karabenick, S. (1992). The effects of computer communications on the reading and writing performance of fifth grade students. *Computers in Human Behavior, 8*, 27-38.	no adequate outcome measure
	Ngaiyaye, M., & VanderPloge, A. (1986). Differential Effectiveness of Three Kinds of Computer-Assisted Instruction. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.	pretest differences > .5 SD
	Page, M. (2002). Technology-Enriched Classrooms: Effects on students of low socioeconomic status. *Journal of Research on Technology in Education, 34*(4), 389-409.	not matched on pretests or demographics
	Pinkard, N. (2001). Rappin' Reader and Say Say Oh Playmate: using children's childhood songs as literacy scaffolds in computer-based learning environments. *Journal of Educational Computing Research, 25*, 17-34.	Duration < 12 weeks
	Rebar, M.W. (2001). *An investigation of early reading response fluency.* Unpublished doctoral dissertation, University of Oregon.	no control group

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	Reinking, D. (1988). Computer-Mediated Text and Comprehension Differences: The Role of Reading Time, Reader Preference, and Estimation of Learning. *Reading Research Quarterly, 23*(4), 484-498.	Duration <12 wks
	Ringenberg, M.(2005) Developing reading fluency with computer-assisted reading practice. Unpublished doctoral dissertation, The Catholic University of America.	no control group
	Rosas, R. et al. (2003). Beyond Nintendo: Design and Assessment of Educational Video Games for First and Second Grade Students. *Computers & Education, 40*(1), 71-94.	insufficient data
	Schneider, J.K. (1985). *A study of the relationship of selected variables to reading achievement in a computer-assisted instructional setting.* Unpublished doctoral dissertation, University of North Texas	no control group
	Snow, M.F. (1993). *The effects of computer-assisted instruction and focused tutorial services on the achievement of marginal learners.* Unpublished doctoral dissertation, University of Miami.	no untreated control group
	Sullivan, F.L. (1989). *The effects of an integrated learning system on selected fourth- and fifth-grade students.* Unpublished doctoral dissertation, Baylor University.	No control group
	Tillman, G. (1995). Will implementing reading computer assisted instruction compared to traditional reading instruction produce more effective comprehension at the elementary school level? ERIC No. ED392025	duration < 12 weeks
	Van Dusen, L. & Worthen, B. (1994). The impact of integrated learning system implementation on student outcomes: Implications for research and evaluation. *International Journal of Educational Research,* 13-24.	pretest equivalence not established/ documented
	Ward, P.L. (1986). *A comparison of computer-assisted and traditional drill and practice on elementary students' vocabulary knowledge and attitude toward reading instruction.* Unpublished doctoral dissertation, The University of Southern Mississippi.	duration < 12 weeks

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	Weber, W. & Henderson, E. (1989). A Computer-Based Program of Word Study: Effects on Reading and Spelling. *Reading Psychology: An International Quarterly, 10*, 157-171.	Insufficient sample size
	Weller, L.D., Carpenter, S., & Holmes, C.T (1998). Achievement gains of low-achieving students using computer-assisted vs regular instruction. *Psychology Reports, 83*, 834	insufficient information
	Zakaluk, B. (1996). Sun Valley Elementary School reading and writing assessment project: Final report. Winnepeg, Canada: University of Manitoba.	No adequate control group
	Zollman, A., Oldham, B., & Wyrick, J. (1989). *Effects of computer-assisted instruction on reading and mathematics achievement of Chapter I students.* (Eric Document Reproduction Service No. 313 024).	pretest equivalence not established/ documented
Instructional-process programs		
100 Book Challenge	DuCette, J. (1999). An evaluation of the '100 Book Program.' Philadelphia, PA: Temple University.	pretest equivalence not established/ documented
	DuCette, J. (2001). An evaluation of the 100 Book Challenge program in the schools funded by the William Penn Foundation. Philadelphia, PA: Temple University.	pretest equivalence not established/ documented
	Offenberg, R. (2005). Effects of the 100 Books reading program on standardized test scores of urban, elementary school pupils in Philadelphia, PA. Philadelphia, PA:	pretest equivalence not established/ documented
	Binghamton City School District. (2001). 100 Book Challenge results: Roosevelt Elementary School. Binghamtom NY: Author	no control group
	Harrisburg City School District (2001). 100 Book Challenge results: Woodward Elementary School. Harrisburg PA: Author.	no control group
1000 Days to Success	Kay, S.D. (2002). *1000 Days to Success. School reform and innovation: A case study.* Unpublished doctoral dissertation, Pepperdine University.	no adequate control group
Benchmark Word Recognition Program	Roberts, E. (1996). The relationship between reading by analogy and independent word recognition. Dissertation Abstracts International, 57 (1), 4689A. (UMI No. 9713226).	pretest equivalence not established/ documented

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Big Four staff development	McMullen, M.J.H. (1998). An analysis of the effects of a staff development program on student achievement.Unpublished doctoral dissertation, Fayetteville State University.	pretest equivalence not established/ documented
Bridge	Biemiller, A., & Siegel, L. (1997). A longitudinal study of the effects of the Bridge reading program for children at risk for reading failure. *Learning Disability Quarterly, 20*(2), 83-92.	pretest equivalence not established/ documented
California Early Literacy Learning (CELL)	Swartz, S. (2003). California Early Literacy Learning (CELL): Research report 1994-2003. (Available from the Foundation for California Early Literacy Learning, 104 East State Street, Suite M., Redlands, CA 92373).	no control group
	Swartz, S. (1999, December). California Early Literacy Learning and Reading Recovery: Two innovative programs for teaching children to read and write. Paper presented at the Claremont Reading Conference, CA.	no control group.
	Swartz, S., Shook, R., & Klein, A. (2003). Foundation for California Early Literacy Learning. (Available from the Foundation for California Early Literacy Learning, 104 East State Street, Suite M., Redlands, CA 92373).	no control group
CALLD	Torres, M. (2007). *A collaborative approach to English language learners' literacy and language development.* Unpublished doctoral dissertation, Fordham University.	insufficient sample
Carbo Reading Styles	Atchison, M. (1998, November). The relationship between the learning styles and reading achievement of sixth-grade students in the state of Alabama. Paper presented at the meeting of the Mid-South Educational Research Association, Gatlinburg, TN.	program not implemented
	Snyder, A. E. (1997). *Utilization of a systemic design and learning styles model as a paradigm for restructuring education*.Unpublished doctoral dissertation, Tennessee State University	insufficient information
	Sudzina, M. (1993). An Investigation of the Relationship between the Reading Styles of Second-Graders and Their Achievement in Three Basal Reader Treatments. Revised. Eric document ED353569.	program not implemented

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CIERA School Change Project	Taylor, B., Pearson, P., Peterson, D., & Rodriguez, M. (2002). The CIERA School Change Project: Supporting schools as they implement homegrown reading reform (CIERA Rep. No 2-016). Ann Arbor: University of Michigan, Center for the Improvement of Early Reading Achievement.	no control group
Cooperative Integrated Reading and Composition (CIRC)	Nath, L.R. (1996). *A peer tutoring training model for cooperative groupings: Is the effectiveness of cooperative groupings enhanced by students obtaining peer tutoring skills?* Unpublished doctoral dissertation, The University of Memphis.	inadequate outcome measure
	Stevens, R., Slavin, R.E., & Farnish, A. (1991). The effects of cooperative learning and direct instruction in reading comprehension strategies on main idea identification. Journal of Educational Psychology, 83(1), 8-16.	duration < 12 weeks
Classwide Peer Tutoring (CWPT)	Abbott, M., Greenwood, C.R., Buzhardt, J., & Tapia, Y. (2006). Using technology-based teacher support tools to scale up the ClassWide Peer Tutoring program. *Reading and Writing Quarterly, 22*, 47-64.	No control group
	Buzhardt, J., Abbott, M., Greenwood, C.R., & Tapia, Y. (2005). Usability testing of the ClassWide Peer Tutoring-learning Management System. *Journal of Special Education Technology, 20*(1), 19-31.	inadequate outcome measure…really just looking at how the system was faring
	Ezall, H,K., Kohler, F.W., Jarzynka, M,m & Strain, P.S. (1992). Use of peer-assisted procedures to teach QAR reading comprehension strategies to third-grade children. Education and Treatment of Children, 17, 52-67.	no adequate comparison group.
	Kamps, D. M., Barbetta, P. M., Leonard, B. R., & Delquadri, J. D. (1994). Classwide peer tutoring: An integration strategy to improve reading skills and promote peer interactions among students with autism and general education peers. Journal of Applied Behavior Analysis, 27, 49-61.	no control group

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	Mortweet, S.L. (1996). *The academic and social effects of Classwide Peer Tutoring for students with educable mental retardation and their typical peers in an inclusive classroom.* Unpublished doctoral dissertation, University of Kansas.	no control group
	Perdomo-Rivera, C. (2002). The effects of classwide peer tutoring on the literacy achievement and language production of English Language Learners in an elementary school setting. Unpublished doctoral dissertation, University of Kansas.	insufficient sample
	Sidiridis,G., Utley, C., Greenwood, C., & Delquadri, J. et al. (1997). Classwide Peer Tutoring: Effects of the spelling performance and social interactions of students with mild disabilities and their typical peers in an integrated instructional setting. *Journal of Behavioral Education, 7*(4), 203-212.	inadequate outcome measure
	Simmons, D., Fuchs, D., Fuchs, L.S., Pate, J., & Mathes, P. (1994). Importance of instructional complexity and role reciprocity to classwide peer tutoring. *Learning Disabilities Research and Practice, 9(4),* 203-212.	no adequate outcome measure
	Tucek, S.L. (1998). *The effects of Classwide Peer Tutoring on students with learning disabilities basic reading skills*. Unpublished master's thesis. Grand Valley State University.	no control group
Consistency Management and Cooperative Discipline ®(CMCD)	Freiberg, H.J., Stein, T.A., and Huang, S. (1995). Effects of classroom management intervention on student achievement in inner-city elementary schools. *Educational Research and Evaluation, 1*(1), 36-66.	subset of Freiberg, Prokosch, Treister, Stein (1990)
Collaborative Literacy Intervention Project (CLIP)	Alegria-Romero, M.L. (2006). *Development and assessment of an early literacy intervention program in an elementary school.* Unpublished doctoral dissertation, Northern Arizona University	Pretest differences > .5 SD
Companion Reader	Arblaster, G.R., Butler, C., Taylor, A.L., Arnold, C., & Pitchford, M. (1991). Same-age tutoring, mastery learning and mixed ability teaching of reading. School Psychology International, 12, 111-118.	insufficient sample
Concept-Oriented Reading Instruction (CORI)	Guthrie, J. T., Wigfield, A., & VonSecker, C. (2000). Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology, 92,* 331–341.	inadequate outcome measure

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	Guthrie, J. T., Wigfield, A., Barbosa, P., Perencevich, K. C., Taboada, A., Davis, M. H., et al. (2004). Increasing reading comprehension and engagement through Concept-Oriented Reading Instruction. *Journal of Educational Psychology, 96,* 403–423.	pretest equivalence not established/ documented
	Guthrie, J.T., Anderson, E., Alao, S., & Rinehart, J. (1999). Influenced of Concept-Oriented Reading Instruction on strategy use and concept learning from text. The Elementary School Journal, 99,343-364.	no adequate outcome measure
cooperative learning	Alhaidari, M.S. (2006). *The effectiveness of using cooperative learning to promote reading comprehension, vocabulary, and fluency achievement scores of male fourth- and fifth-grade students in a Saudi Arabian school.* Unpublished masters thesis, The Pennsylvania State University.	duration < 12 weeks
	Chalip, P. & Chalip, L. (1978). Interaction between co-operative and individual learning. New Zealand Journal of Educational Studies, 13, 174-184.	duration < 12 weeks
	Dalton, D. W. (1990). The effects of cooperative learning strategies on achievement and attitudes during interactive video. *Journal of Computer-Based Instruction, 17*(1), 8-16.	Duration <12 weeks
	Hubbard, T., & Newell, M. (1999). Improving Academic Achievement in Reading and Writing in Primary Grades. Unpublished master's thesis, Saint Xavier University	no control group
	Talmage, H., Pascarella, E. T., & Ford, S. (1984). The influence of cooperation learning strategies on teacher practices, student perceptions of the learning environment, and academic achievement. American Educational Research Journal, 21(1), 163-179.	No control group
cross-age tutoring	Carberry, D.J. (2003). *The effects of cross-age tutoring in reading on tutees, tutors and metacognitively trained tutors.* Unpublished doctoral dissertation, University of Minnesota.	duration < 12 weeks

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	Clark, N.M. (2007). *Investigating the relationship of in-class tutoring using focused reading strategies and the reading comprehension of struggling readers*. Unpublished doctoral dissertation, Capella University.	no control group
	Coats, L. (2007). Cross-age tutoring: Effects on reading achievement of tutors and tutees in an after-school program. Unpublished doctoral dissertation, Northcentral University.	no control group, insufficient sample size
	Kreuger, E., & Braun, B. (1999, December/January). Books and buddies: Peers tutoring peers. The Reading Teacher, 52(4), 10-14.	no control group
	Menikoff, L.B. (1999). The effects of cross-age tutoring upon the decoding skills, attitude toward reading, teacher perceptions of reading improvement, and the self-concept of inner-city at-risk students. Unpublished doctoral dissertation, City University of New York.	no adequate control group
	Olson, R., Foltz, G., & Wise, B. (1986). Reading instruction and remediation with the aid of computer speech. Behavior Research Methods, Instruments, & Computers 18(2), 93-99.	insufficient sample
	Standley, L. (2006). Cross-age peer-tutoring effects on the English literacy development and academic motivation of English language learners identified with, and referred for, mild and moderate disabilities. Unpublished doctoral dissertation, The University of New Mexico	insufficient sample
Early Intervention in Reading (EIR)	Chard, D. (1997). Final evaluation report AY 1996-97: Early Reading Intervention Project. Springfield Public Schools, Springfield Massachusetts. Retrieved from http://www.eduplace.com/intervention/readintervention/pdfs/springfield.pdf	no adequate control group
	Taylor, B.M. (2003) Learning to Teach a Grade 4 Reading Intervention Program through Internet-Supported Professional Development. Edina, MN: Web Education Company.	pretest equivalence not established/ documented
Essential Learning Systems	Rountree, T.G. (1994). *The impact of a therapy-based reading remediation program on underachieving grade 5 students in reading comprehension.* Unpublished doctoral dissertation, Baylor University.	pretest differences > .5 SD

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	Holmes, S. (2001). *The Relative Effectiveness of Essential Learning Systems, a Sensory Integration Training Program on Introductory Reading Skills and Academic Self-Concept of Rural African American Children with Learning Deficits.* Unpublished doctoral dissertation, University of Mississippi.	duration < 12 weeks
Failure Free Reading	Algozzine, B., & Lockavitch, J. (1998). Effects of the Failure Free Reading program on students at risk for reading failure. Special Services in the Schools, 13 (.5), 95-103.	no control group.
	Educational Enhancement Services. (2000). Greensboro Elementary School comprehensive school reform evaluation report. Retrieved December 10, 2006, from http://www.failurefree.com/downloads/Greensboro_CSRD_Report.pdf.	no adequate comparison group
	Failure Free Reading (2003). Failure Free reading research findings: OhioReads 2000-01 school year results. (Study: Midway Elementary).	no control group
	Failure Free Reading (2003). Failure Free reading research findings: OhioReads 2000-01 school year results. (Study: Miles Standish Elementary).	no control group
	Failure Free Reading (2003). Failure Free reading research findings: OhioReads 2000-01 school year results. (Available from Failure Free Reading, 140 Cabarrus Ave., W., Concord, NC 28025). (Study: North Elementary, Urbana City Schools).	no control group
	Failure Free Reading. (2003). Case study: Fairland East Elementary's fourth grade reading blitz. Concord, NC: Author. (Available from Failure Free Reading, 140 Cabarrus Ave., W., Concord, NC 28025).	duration < 12 weeks
	Failure Free Reading. (n.d.). Research summary intensive intervention for upper elementary students. (Study: Washington, DC-Spring 2002).	duration < 12 weeks
	Failure Free Reading. (n.d.). Research summary intensive intervention for upper elementary students. Retrieved from http://www.failurefree.com/downloads/FFR_Upper_Elem_Intervention.pdf. (Study: Klein ISD).	no control group

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	Failure Free Reading. (n.d.). Research summary intensive intervention for upper elementary students. Retrieved from http://www.failurefree.com/downloads/FFR_Upper_Elem_Intervention.pdf. (Study: Russellville, AL-Fall 2002).	no control group
	McElveen, L. (2000). Helen Edwards Elementary School: Comprehensive School Reform Demonstration Program (CSRD): Evaluation report for year one of the Failure Free Reading Program. (Available from Failure Free Reading, 140 Cabarrus Ave., W., Concord, NC 28025).	no control group
	McElveen, L. (2000, June). Case study: Helen Edwards Elementary, New Orleans, Louisiana. (Available from Failure Free Reading, 140 Cabarrus Ave., W., Concord, NC 28025).	no control group
First Steps	St. John, E., Manset, G., Chung, C., Simmons, A., & Musoba, G. (2000). Research-based reading interventions: The impact of Indiana's Early Literacy Grant Program. Bloomington: Indiana University, Indiana Education Policy Center, Smith Center for Research in Education (ERIC No ED447466).	no control group
Fluency Development Lesson	Rasinski, T. V., Padack, N., Linek, W., & Sturtevant, E. (1994). Effects of fluency development on urban second-grade readers. *Journal of Educational Research, 87*, 158–165.	pretest differences > .5 SD, insufficient sample
FORI	Hiebert, E. (2003). The role of text in developing fluency: A comparison of two interventions. Retrieved from Pearson Education http://www.textproject.org/papers/hiebert-2003a	duration < 12 weeks, pretest equivalence not established/ documented
	Stahl, S A., Heubach, K., & Cramond, B. (1997). *Fluency-oriented reading instruction.* Research report No. 79. Athens, GA: National Reading Research Center.	No control group
Four Block Framework	Popplewell, S., & Doty, D. (2001). Classroom instruction and reading comprehension: A comparison of one basal reader approach and the four-blocks framework. *Reading Psychology, 22*(2), 83-95.	pretest equivalence not established/ documented;

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	St. John, E., Manset, G., Chung, C., Simmons, A., & Musoba, G. (2000). Research-based reading interventions: The impact of Indiana's Early Literacy Grant Program. Bloomington: Indiana University, Indiana Education Policy Center, Smith Center for Research in Education (ERIC No ED447466).	no control group
High/Scope	Schweinheart, L.J., & Wallgren, C.R. (1993). Effects of a Follow Through Program on school achievement. *Journal of Research in Childhood Education, 8*(1), 43-56.	pretest equivalence not established/ documented
Jigsaw Classroom	Moskowitz, J., Malvin, H., Schaeffer, G., & Schaps, E. (1985). Evaluation of Jigsaw, a cooperative learning technique. *Contemporary Educational Psychology, 10*(2), 104-112.	insufficient information
	Moskowitz, J., Malvin, J., Schaeffer, G., & Schaps, E. (1983). Evaluation of a cooperative learning strategy. *American Educational Research Journal, 20*(4), 687-696.	pretest equivalence not established/ documented
K2	Robinson-Evans, J.M. (2006). *An investigation of the effects of an early reading intervention on students with disabilities and those at-risk of reading failure*. Unpublished doctoral dissertation, Ball State University.	no adequate control group
k-w-l	Burns, P.M. (1994). *The effect of the K-W-L reading strategy of fifth-graders' reading comprehension and reading attitude.* Unpublished doctoral dissertation, Temple University.	duration <12 weeks
	Mayer McLain, K.V. (1990). Effects of Two Comprehension Monitoring Strategies on metacognitive Awareness and Reading Achievement in Third and Fifth-Grade Students. Unpublished doctoral dissertation, Ball State University.	duration < 12 weeks
Learning Together model	De Russe, J. (1999). The effect of staff development training and the use of cooperative learning methods on the academic achievement of third through sixth grade Mexican-American students. Unpublished doctoral dissertation, Texas A&I University.	pretest equivalence not established/ documented
Lindamood-Bell (Auditory Discrimination in Depth (ADD)/Lindamood Phonemic Sequencing (LiPS))	Sadoski, M., & Willson, V. (2006). Effects of a theoretically based large-scale reading intervention in a multicultural urban school district. *American Educational Research Journal, 43*(1), 137-154.	pretest equivalence not established/ documented

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Listen Look Learn	Moodie, A. (1972). An Evaluation of the Listen Look Learn Program at Tecumseh Elementary School During 1971-72. Vancouver Board of School Trustees (British Columbia). Dept. of Planning and Evaluation.	pretest equivalence not established/ documented
mastery learning	Conley, M. (2005). *A study of the impact of teacher expectations, staff development for teachers, and mastery learning on student achievement in reading comprehension.* Unpublished doctoral dissertation, University of Chciago.	pretest differences > .5 SD
	Gatipon, B.B. (1983). *Effects of teachers' use of mastery learning techniques on the minimum competency test performance of rural second-grade students.* Unpublished doctoral dissertation, Louisiana State University and Agricultural & Mechanical College.	duration < 12 weeks
	Hoover, D.B. (1985). *A comparative study of reading attitudes, self-concept, and achievement between students of two reading programs (mastery learning, inventory, cmi (coomputer managed instruction))*. Unpublished doctoral disseration, University of Tennessee.	pretest equivalence not established/ documented
	Null, D.H. (1990). The effects of learning for mastery on first and second grade decoding skill and general reading achievement. Unpublished doctoral dissertation, Indiana University.	Pretest differences > .5 SD
Montessori Method	McCladdie, K. (2006). A Comparison of the Effectiveness of the Montessori Method of Reading Instruction and the Balanced Literacy Method for Inner City African American Students. Unpublished doctoral dissertation, Saint Joseph's University, PA.	pretest equivalence not established/ documented
metacogntive strategies	Barton, V., Freeman, B., Lewis, D., & Thompson, T. (2001). Metacognition: Effects on reading comprehension and reflective response. Chicago, IL: Unpublished Master's Thesis. (ERIC Document Service No. ED453521	No control group
	Boulware-Gooden, R., Carreker, S., Thornhill, A., R. Malatesha Joshi (2007). Instruction of Metacognitive Strategies Enhances Reading Comprehension and Vocabulary Achievement of Third-Grade Students. Reading Teacher, 61(1), 70-77.	duration < 12 weeks

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	Camahalan, F.M.G. (2006). Effects of a metacognitive reading program on the reading achievement and metacognitive strategies of studens with dyslexia. *Reading Improvement, 43*(2), 77-93.	no control group
Pause Prompt & Praise	Goyen, j., & McClelland, D. (1994). Pause, Prompt, and Praise: The need for more research. Journal of Research in Reading, 17 (2), 108-119.	duration < 12 weeks
Phono-Graphix	Denton, C., Fletcher, J., Anthony, J., & Francis, D. (2006). An evaluation of intensive intervention for students with persistent reading difficulties. *Journal of Learning Disabilities, 39*(5), 447-466.	no untreated control group
	McGuinness, C., & McGuinness, D. (1996). Research: A short report on Phono-Graphix clinical and classroom application on British school children. Retrieved from Read America web site: http://www.readamerica.net/memberResearchView.asp?ResearchID=8.	no control group
Peer-Assisted Learning Strategies (PALS)	Barton-Arwood, S.M. (2003). *Reading instruction for elementary-age students with emotional and behavioral disorders: Academic and behavioral outcomes.* Unpublished doctoral dissertation, Vanderbilt University.	no control group
	Bergeron, J. (1998). A comparison of classwide cross-age and same-age peer tutoring for second-grade students at risk for reading failure. Unpublished doctoral dissertation, University of Miami. Retrieved September 5, 2007, from ProQuest Digital Dissertations database. (Publication No. AAT 9905010).	Pretest differences > .5 SD
	Fuchs, D., Fuchs, L., Patricia G. Mathes, and Deborah C. Simmons, "Peer-Assisted Learning Strategies: Making Classrooms More Responsive to Diversity," *American Educational Research Journal,* Vol. 34, No. 1, 1997a, pp. 174-206.	inadequate outcome measure
	Hudson, K.G. (2004). The effects of Peer-Assisted Learning Strategies on the reading achievement of elementary students with and without decoding weaknesses. Unpublished doctoral dissertation, University of Virginia.	inadequate outcome measure

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	Saenz, L., Fuchs, L., & Fuchs, D. (2005). Peer-Assisted Learning Strategies for English language learners with learning disabilities. *Exceptional Children, 71*, 231-247.	inadequate outcome measure
	Simmons, D., Fuchs, L., & Fuchs, D., Mathes, P., & Hodge, J.P. (1995). Effects of explicit teaching and peer tutoring on the reading achievement of learning disabled and low-performing students in regular classrooms. *Elementary School Journal, 95*(5)*,* 387-408.	duration < 12 weeks
	Wehby, J., Falk, K., Barton-Arwood, S., Lane, K., & Cooley, C. (2003). The impact of comprehensive reading instruction on the academic and social behavior of students with emotional and behavioral disorders. *Journal of Emotional and Behavioral Disorders, 11*(4), 225.	insufficient sample, no control group
Project FAST	Hampton, F., Mumford, D., & Bond, L. (1998). Parent involvement in inner-city schools: The Project FAST extended family approach to success. *Urban Education, 33*(3), 410-427.	pretest equivalence not established/ documented
Questioning the Author	Beck, I.L., M.G. McKeown, C. Sandora, L. Kucan, et al. 1996. Questioning the author: A yearlong classroom implementation to engage students with text. *Elementary School Journal 96*(4):385-414.	no control group
Rainbow Reading Program	Nalder, S., (2002). The effectiveness of Rainbow Reading: An audio-assisted reading program. Retrieved from Pacific Learning web site: http://74.125.45.104/search?q=cache:HFSbgw3JOfIJ:www.rainbowreading.co.nz/documents/RR%2520effectiveness.doc+The+effectiveness+of+Rainbow+Reading:+An+audio-assisted+reading+program&hl=en&ct=clnk&cd=1&gl=us	no control group
Readers Theater	Sullivan, C.J. (2007). *Reading to students, script-writing and readers' theatre: Strategies to enhance reading skills of low-achievers in a third-grade early intervention classroom.* Unpublished doctoral dissertation, Capella University.	no control group

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	Dixon, Opal J. (2007) Content area readers' theater: The effect on fluency and comprehension. Ed.D. dissertation, University of Houston, United States -- Texas. Retrieved October 23, 2007, from ProQuest Digital Dissertations database. (Publication No. AAT 3263285).	duration < 12 weeks
	Jagger, T.P. (2008). *The effect of Reader's Theatre on fifth graders' reading fluency and comprehension.* Unpublished doctoral dissertation, Walden University.	duration < 12 weeks
	Corcoran, C. A. (2005). A study of the effects of readers' theater on second and third grade special education students' fluency growth. Reading Improvement 42(2), 105-111.	no control group
	Bridges, C. (2006). Effects of Readers' Theatre on English language learners: A strategy for oral language and reading improvement. Unpublished doctoral dissertation, University of Oregon	duration < 12 weeks
	Mountford, K.A. (2007). *Increase reading fluency of 4th and 5th grade students with learning disabilities using Readers' Theater.*	no control group
	Hollingsworth, A., Sherman, J., Zaugra, C. (2007). Increasing reading comprehension in first and second graders through cooperative learning. Saint Xavier University & Pearson Achievement Solutions, Inc.	no control group
Reading Acceleration Program (RAP)	Feazell, V.S. (2004). Reading Acceleration Program: A schoolwide intervention by combining fluency training with phonics instruction and dictation practice, a California school achieved significant improvement in student fluency and decoding skills. *The Reading Teacher, 58*(1), 66-72.	pretest equivalence not established/ documented
Reading Support Program	Carlson, L. A. (2006). An Evaluation of an Upper Elementary Reading Support Program in Delaware's Caesar Rodney School District. Unpublished doctoral dissertation, Wilmington College, DE.	pretest differences > .5 SD
Reading to Read	Bolton, A. B. (1991). *Reading to Read: Evaluating a variant of repeated reading.* Unpublished doctoral dissertation, University of Southern Mississippi.	Insufficient sample size

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	Prestridge, C.C. (1996). Reading to Read and curriculum-based passages: Effects on student performance. Unpublished doctoral dissertation, University of Southern Mississippi.	insufficient sample
Reading Together	Jennings, C. (2004) *The Reading Together(TM) cross-age tutoring program and its effects on the English language proficiency and reading achievement of English language learners.* Unpublished doctoral dissertation, University of North Texas.	pretest differences > .5 SD
Reciprocal Teaching	Johnson-Glenberg, Mina C., "Training Reading Comprehension in Adequate Decoders/Poor Comprehenders: Verbal Versus Visual Strategies," Journal of Educational Psychology, Vol. 92, No. 4, 2000, p.772-782.	Duration < 12 weeks
	Marks, M., Pressley, M., Coley, J.D., Craig, S., Gardner, R., DePinto,T., et al. (1993). Three teachers' adaptations of reciprocal teaching in comparison to traditional reciprocal teaching. The Elementary School Journal, 94, 267-283.	pretest equivalence not established/ documented
	Taylor, B., & Frye, B. (1992). Comprehension Strategy Instruction in the Intermediate Grades. *Reading Research and Instruction, 32*(1), 39-48.	pretest equivalence not established/ documented
	Williamson, R. A. (1989). *The effect of reciprocal teaching on student performance gains in third grade basal reading instruction.* Unpublished doctoral dissertation, Texas A&M University.	duration < 12 weeks
SAIL	Brown, R., Pressley, M., Van Meter, P., & Schuder, T. (1996). A quasi-experimental validation of transactional strategies instruction with low-achieving second-grade readers. *Journal of Educational Psychology, 88*(1), 18-37.	pretest equivalence not established/ documented
Sonday System	Czepull, T.K. (2007). *Analysis of a fluency method and a phonics method of reading instruction in third-grade students.* Unpublished doctoral dissertation, University of South Dakota.	insufficient sample
	Winsor Learning, Inc. (n.d.). Sonday System data report & references. Retrieved from: http://www.sondaysystem.com/	pretest equivalence not established/ documented, no control group

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Strategy Instruction	Block, C. C. (1993). Strategy instruction in a literature-based reading program. *Elementary School Journal, 94*, 139–151.	pretest equivalence not established/ documented
	Dole, J. A., Brown, K. J., & Trathen, W. (1996). The effects of strategy instruction on the comprehension performance of at-risk students. *Reading Research Quarterly, 31*, 62–88.	duration < 12 weeks
	Johnson, L., Graham, S., & Harris, K.R. (1997). The effects of goal setting and self-instructions on learning a comprehension strategy: A study with students with learning disabilities. *Journal of Learning Disabilities, 30,* 80-91.	Insufficient sample
Student Teams Achievement Divisions (STAD).	Slavin, R.E., (1980). Effects of student teams and peer tutoring on academic achievement and time on task. Journal of Experimental Education, 48, 252-257.	Duration < 12 weeks
Think Alongs	Educational Research Institute of America (ERIA). (2002). A study of the instructional effectiveness of the Steck-Vaughn Think Alongs™: Comprehending As You Read. Bloomington, IN.	No control group
Together We Can	Li, L.(1999). The effects of varying amounts of practice during Classwide Peer Tutoring on spelling performance of third graders. Unpublished doctoral dissertation, Utah State University.	inadequate outcome measure (spelling)
Tribes Learning Communities	Kiger, D. (2000). The Tribes process TLC: A preliminary evaluation of classroom implementation & impact on student achievement. Education, 120(3), 586-592	Groups not matched at pretest
Wisconsin Design for Reading Skills Development (WDRSD)	Negley, S. (1976). *Effects of the Wisconsin Reading Design Comprehension Program on Reading Achievement and Self-Concept of Sixth Grade Students.* Unpublished doctoral dissertation, Andrews University.	Pretest differences > .5 SD
	Lazich, G.S. (1974). The effects of the Wisconsin Design for Reading Skills Development in K-3, Niles, Michigan 1971-1973. Unpublished doctoral dissertation, Wayne State University	
Other instructional-process programs	Clark, M. (2001). *A research based study for the use of audiobooks in the classroom as a complementary reading program.* Johnson's Bible College. (ERIC Document Reproduction Service No. ED455511)	duration < 12 weeks

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	Conte, R., & Humphreys, R. (1989). Repeated reading: Using audio-taped material enhances oral reading in children with reading difficulties. *Journal of Communication Disorders, 22*, 65-79.	Insufficient sample size
	Dahl, P. R. (1979). An experimental program for teaching high speed word recognition and comprehension skills. In J. E. Button, T. C. Lovitt, & T. D. Rowlands (Eds.), *Communications research in learning disabilities and mental retardation* (pp. 33–65). Baltimore: University Park Press.	No control group
	D'Angelo, F. (2006). Differentiated Instruction: Effects on Reading Comprehension in the Urban Elementary School Setting. Unpublished doctoral dissertation, Northcentral University.	Duration <12 weeks
	Downhower, S. L. (1987). Effects of repeated readings on second-grade transitional readers' fluency and comprehension. *Reading Research Quarterly, 22,* 389–406.	Duration <12 weeks; questionable outcome measure.
	Ebner, F., & Miller, S. (2003). Improving primary students' reading fluency. Chicago, IL: Unpublished Master's Thesis. (ERIC Document Reproduction Service Number ED479067)	No control group
	Foorman, B.R., Schatschneider, C., Eakin, M.N., Fletcher, J.M., Moats, L.C., & Francis, D.J. (2006). The impact of instructional practices in grades 1 and 2 on reading and spelling achievement in high poverty schools. Contemporary Educational Psychology, 31, 1-29.	No control group
	Harris, L., Doyle, E., & Haaf, R. (1996). Language treatment approach for users of AAC: experimental single-subject investigation. AAC: *Augmentative and Alternative Communication, 12*, 230-243.	no control group
	Idol, L. (1987). Group story mapping: A comprehension strategy for both skilled and unskilled readers. Journal of Learning Disabilities, 20(4), 196-205	Duration < 12 weeks
	Johnson, J.L. (2007). *The use of phrase-cued text as an intervention to facilitate oral reading fluency for struggling third graders.* Unpublished doctoral dissertation, University of South Dakota.	duration < 12 weeks

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	Klingner, J. K., Vaughn, S., & Schumm, J. S. (1998). Collaborative strategic reading during social studies in heterogeneous fourth-grade classrooms. *The Elementary School Journal, 99*, 3–22.	duration < 12 weeks
	Kuhn, M. (2004). Helping students become accurate, expressive readers: Fluency instruction for small groups. The Reading Teacher, 58(4), 338-344.	Duration < 12 weeks
	Linan-Thompson, S., Vaughn, S., Hickman-Davis, P., & Kouzekanani, K. (2003). Effectiveness of supplemental reading instruction for English language learners with reading difficulties. *Elementary School Journal, 103*(3), 221-238.	no control group
	Linebarger, D. (2001). Learning to Read from Television: The Effects of Using Captions and Narration. *Journal of Educational Psychology, 93*(2), 288-298.	no control group
	Malone, K. (2007). Impact of structured professional development in Reading First schools on student achievement as evidenced in DIBELS. Ed.D. dissertation, Union University	No control group
	Manset-Williamson, G. & Nelson, J.M. (2005). Balanced, strategic reading instruction for upper-elementary and middle school students with reading disabilities: A comparative study of two approaches. *Learning Disability Quarterly, 28,* 59-74.	Duration < 12 weeks
	McIntyre, E., Petrosko, J., Jones, D., Powell, R. Powers, S., Bright, K., & Newsome, F. (2005). Supplemental instruction in early reading: Does it matter for struggling readers? The Journal of Educational Research, 99(2), 99-107.	Pre and post-testing did not utilize standardized tests
	Miranda, A., Villaescusa, M.I., & Vidal-Abarca, E. (1997). Is attribution retraining necessary? Use of self-regulation procedures for enhancing the reading comprehension strategies of children with learning disabilities. *Journal of Learning Disabilities, 30,* 503-512.	Pretest differences > .5 SD
	Moore-Hart, M. (1995). The effects of multicultural links on reading and writing performance and cultural awareness of fourth and fifth graders. *Computers in Human Behavior, 11*, 391-410.	insufficient sample

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	Patching, W., Kameenui, E., Carnine, D., Gersten, R., Colvin, G. (1983). Direct Instruction in Critical Reading Skills Reading Research Quarterly, Vol. 18, No. 4, 406-418	insufficient sample
	Pritchard, A. (1997). The refinement of an 'ideas map' as a means of assessment and of enhancing children's understanding of texts. Reading, 31, 55-59.	no adequate outcome measure
	Rasinski, T. V. (1990). Effects of repeated reading and listening-while-reading on reading fluency. Journal of Educational Research, 83(3), 147-150.	Duration < 12 weeks
	Reinking, D., & Wakins, J. (2000). A formative experiment investigating the use of multimedia book reviews to increase elementary students' independent reading. Reading Research Quarterly, 35, 384-419.	inadequate outcome measure
	Reutzel, D. R., & Hollingsworth, P. M. (1993). Effects of fluency training on second graders' reading comprehension, Journal of Educational Research, 86(6), 325-331.	insufficient/conflicting information
	Reutzel, D. R., Hollingsworth, P. M., & Eldredge, L. (1994). Oral reading instruction: The impact on student reading development. Reading Research Quarterly, 29, 40-62.	insufficient/conflicting information
	Saunders, W.M., & Goldenberg, C. (1999). Effects of instructional conversations and literature logs on limited and fluent English proficient students' story comprehension and thematic understanding. The Elementary School Journal, 99 (4), 277.	duration < 12 weeks
	Shany, M., & Biemiller, A. (1995). Assisted reading practice: Effects on performance for poor readers in grades 3 and 4. *Reading Research Quarterly, 30,* 382-395.	Insufficient sample size
	Shortland-Jones, B. (1986). *The development and testing of an instructional strategy for improving reading comprehension based on schema and metacognitive theories.* Unpublished doctoral dissertation, University of Oregon.	E and C groups not matched

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	Simmons, D., Fuchs, L., & Fuchs, D., Mathes, P., & Hodge, J.P. (1995). Effects of explicit teaching and peer tutoring on the reading achievement of learning disabled and low-performing students in regular classrooms. *Elementary School Journal, 95*(5)*,* 387-408.	pretest differences > 1/2 SD
	Sindelar, P. T., Monda, L. E., & O'Shea, L. J. (1990). The effects of repeated readings on instructional and mastery level readers. *Journal of Educational Research, 83,* 220–226.	No control group
	Taylor, L.K., Alber, S.R., & Walder, D.W. (2002). The comparative effects of a modified self-questioning strategy and story mapping on the reading comprehension of elementary school students with learning disabilities. *Journal of Behavioural Education, 11,* 69-87.	Insufficient sample size
	Van Keer, H. & Verhaeghe, J. (2005). Comparing two teacher development programs for innovating reading comprehension instruction with regard to teachers' experiences and student outcomes. *Teacher and Teacher Education, 21*, 543-562.	no untreated control group
	Vaughn, S., Chard, D., Bryant, D. P., Coleman, M., Tyler, B., Thompson, S., & Kouzekanani, K. (2000). Fluency and comprehension interventions for third-grade students: Two paths to improved fluency. *Remedial and Special Education, 21*(6), 325-335.	no untreated control group - both groups experimental
	Weinstein, G., & Cooke, N. L. (1992). The effects of two repeated reading interventions on generalization of fluency. Learning Disability Quarterly, 15, 21-28.	Insufficient sample
	Wentink, H. Van Bon, W., & Schreuder, R. (1997). Training of Poor Readers' Phonological Decoding Skills: Evidence for Syllable-Bound Processing. *Reading and Writing: An Interdisciplinary Journal, 9,* 163-192.	Duration <12 weeks
	White, T.G. (2005). Effects of Systematic and Strategic Analogy-Based Phonics on Grade 2 Students' Word Reading and Reading Comprehension. Reading Research Quarterly 40:2, 234	no untreated control group

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Combined curriculum and instructional process approaches		
Breakthrough to Literacy	Breakthrough to Literacy (n.d.) Cohort with Breakthrough exceeds scores of other grades. W.R. McNeill Elementary School, Bowling Green City Schools, Bowling Green, Kentucky STAR Reading Assessment, Spring 2001-Spring 2002. Retrieved February 19, 2007 from http://www.breakthroughtoliteracy.com/index.html?SID&page=df_lr_studies_mcneill_1	Inadequate comparison group
	Breakthrough to Literacy (2003).Topic 1: Interventions for students with beginning reading difficulties. (Available from Breakthrough to Literacy, 2662 Crosspark Rd., Coralville, IA 52241) (Logan County School District).	pretest equivalence not established/ documented
	Breakthrough to Literacy (2003). Topic 1: Interventions for students with beginning reading difficulties. (Available from Breakthrough to Literacy, 2662 Crosspark Rd., Coralville, IA 52241) (Charlotte-Mecklenburg Public School District).	pretest equivalence not established/ documented
	Breakthrough to Literacy (2003). Topic 1: Interventions for students with beginning reading difficulties. (Available from Breakthrough to Literacy, 2662 Crosspark Rd., Coralville, IA 52241) (Daviess County School District).	no adequate comparison group
	Bompadre, C. (2002). *The effectiveness of systematic reading programs on the achievement of students in grades K-2.* Dissertation Abstracts International, 63 (3), 890A. (UMI No. 3045848).	pretest equivalence not established/ documented
Direct Instruction	Adams, G., & Engelmann, S. (1996). Additional documentation. In Research on Direct Instruction: 25 years and beyond DISTAR, 99-145. Eugene, OR: Association for Direct Instruction.	no control group
	Becker, W.C., & Gersten, R.M. (1982). A follow-up of Follow-Through: The later effects of the Direct Instruction model on children in fifth and sixth grades. *American Educational Research Journal, 19*(1), 75-92.	pretest equivalence not established/ documented

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	Buschemeyer, S.R.Q. (2005). *A study of the impact of Direct Instruction on Jefferson County Public Schools' reading curriculum*. Unpublished doctoral dissertation, Spalding University.	insufficient information
	Butler, P.A. (2003). Achievement outcomes in Baltimore City schools. Journal of Education for Students Placed At-Risk, 8(1), 33-60.	pretest equivalence not established/ documented
	Carnine, L., Carnine,D., & Gersten, R. (1984). Analysis of oral reading errors made by economically disadvantaged students taught with a synthetic-phonics approach. *Reading Research Quarterly, 19*(3), 343-356.	no adequate control group
	Centeno, B.P. (2005). *Defeating the reading achievement gap at Fargo Elementary: To each according to his needs*. Unpublished doctoral dissertation, University of Southern California.	no adequate control group
	Dowdell, T. (1996). The effectiveness of Direct Instruction on the reading achievement of sixth graders. (ERIC Document Reproduction Service No. ED 396268)	pretest differences > .5 SD
	Goldman, B.E. (2000). A study of the implementation of a direct instruction reading program and its effects on the reading achievement of low-socioeconomic students in an urban public school. Unpublished doctoral dissertation, Loyola University of Chicago.	pretest equivalence not established/ documented
	Hicks, D. (2006). *The impact of reading instructional methodology on student achievement of Black males based on the Florida Comprehensive Assessment Test.* Unpublished doctoral dissertation, Florida Atlantic University.	pretest equivalence not established/ documented
	Joseph, B. (2000). Teacher expectations of low-SES preschool and elementary children: Implications of a research-validated instructional intervention for curriculum policy and school reform. Dissertation Abstracts International, 65 (1), 35A. (UMI No. 3120273).	no control group
	Kaufman, M. (1973). *The Effect of the DISTAR Instructional System: An evaluation of the 1972-1973 Title I Program of Winthrop, Massachusetts.* (ERIC No. ED 110171)	pretest equivalence not established/ documented

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	Kaufman, M. (1974). *The Effect of the DISTAR Instructional System: An evaluation of the 1973-1974 Title I Program of Winthrop, Massachusetts*. (ERIC No. ED 110170)	pretest differences > .5 SD
	Kuder, J. (1990). Effectiveness of the DISTAR Reading program for children with learning disabilities. *Journal of learning Disabilities, 24*, 124-127.	insufficient info
	McCollum-Rogers, S. (2004). Comparing Direct Instruction and Success for All with a basal reading program in relation to student achievement. Dissertation Abstracts International, 65 (10), 3642A. (UMI No. 3149920).	pretest equivalence not established/ documented
	McGahey, J. (2002). Differences between a Direct Instruction reading approach and a balanced reading approach among elementary school students. Dissertation Abstracts International, 63 (06A), 2147. (UMI No. 3057184).	pretest equivalence not established/ documented
	Mosley, A.M. (1997). The effectiveness of Direct Instruction on reading achievement. (Report No. CS012664). East Lansing, MI: National Center for Research on Teacher learning. (ERIC Document Reproduction Service Nn. ED402553)	pretest equivalence not established/ documented
	Ross, S., Nunnery, J., Goldfeder, E., McDonald, A., Rachor, R., Hornbeck, M. et al. (2004). Using school reform models to improve reading achievement: A longitudinal study of Direct Instruction and Success for All in an urban district. *Journal of Education for Students Placed at Risk, 9*(4), 357-388.	pretest equivalence not established/ documented
	Sloan, H.A. (1993). Direct instruction in fourth and fifth-grade classrooms. Unpublished doctoral dissertation, Purdue University.	pretest differences > .5 SD
	Sterbinsky, A., Ross, S., & Redfield, D. (2003, April). Comprehensive school reform: A multi-site replicated experiment. Paper presented at the meeting of the American Educational Research Association, Chicago, IL.	pretest equivalence not establish/ documented
	Summerell, S., & Brannigan, G.G. (1977). *Comparison of reading programs for children with low levels of reading readiness. Perceptual and Motor Skills, 44*(3), 743-6.	insufficient sample

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	Tobin, K. (2004). The effects of beginning reading instruction in the Horizons Reading Program on the reading skills of third and fourth graders. *Journal of Direct Instruction, 4*(2), 129-137.	pretest equivalence not established/ documented
	Watkins, T. (2008). *A comparative analysis of the effectiveness of Direct Instruction reading on African American, Caucasian, and Hispanic students.* Unpublished doctoral dissertation, Delta State University.	no untreated control group
	Wiltz, N., & Wilson, G. P. (2006). An inquiry into children's reading in one urban school using SRA Reading Mastery (Direct Instruction). Journal of Literacy Research, 37(4), 493-528.	no adequate control group
	Wrobel, S. (1996). The effectiveness of Direct Instruction on the various reading achievement categories. (Eric Document Reproduction Service No. ED 395292).	pretest equivalence not established/ documented
	Yu, L., & Rachor, R. (2000). *The two-year evaluation of the three-year Direct Instruction Program in an urban public school system.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA. (ERIC No. ED 441831)	pretest equivalence not established/ documented - program in place before pretests
Direct Instruction / Corrective Reading	Benner, G.J., Kinder, D., Beaudoin, K.M., Stein, M., & Hirschmann, K. (2005). The effects of the *Corrective Reading* Decoding program on the basic reading skills and social adjustment of students with high incidence disabilities. *Journal of Direct Instruction, 5*(1), 67-80.	Pretest differences > .5 SD
	Clunies-Ross, G. (1990). Some effects of direct instruction in comprehension skills on intellectual performance. *ADI News, 9* (3), 18-21.	inadequate outcome measure
	Gregory, R. P., Hackney, C., & Gregory, N. M. (1982). Corrective Reading programme: An evaluation. *British Journal of Educational Psychology, 52,* 33–50.	inadequate outcome measure
	Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. Journal of Educational Psychology, 80 (4), 437-447.	no control group
	Kasendorf, S. J., & McQuaid, P. (1987). Corrective reading evaluation study. *ADI News, 7*(1), 9.	No control group

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	Somerville, D., & Leach, D. (1988, February). Direct or indirect instruction: An evaluation of three types of intervention programs for assisting students with specific reading difficulties. Educational Research, 30 (1), 46-53.	pretest equivalence not established/ documented; insufficient sample size
	Vitale, M., Medland, M., Romance, N., & Weaver, H. P. (1993). Accelerating reading and thinking skills of low-achieving elementary students: Implications for curricular change. *Effective School Practices, 12*(1), 2-31.	pretest equivalence not established/ documented
Direct Instruction/ Reading Mastery	Ashworth, D. (1999). Effects of Direct Instruction and basal reading instruction programs on the reading achievement of second graders. Reading Improvement, 35 (4), 150-156.	pretest equivalence not established/ documented
	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003). City Springs Elementary School. Baltimore, MD. In Results with Reading Mastery (pp. 14-15). New York: McGraw-Hill.	no control group
	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003). Eshelman Avenue Elementary, Lomita, CA. In Results with Reading Mastery (pp. 16-17). New York: McGraw-Hill.	no control group
	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003). Forth Worth Independent School District, Fort Worth, TX. In Results with Reading Mastery (pp.-4-5). New York: McGraw-Hill.	no control group
	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003). Lebanon School District, Lebanon, PA. In Results with Reading Mastery (pp.8-9). New York: McGraw-Hill.	no control group
	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003). Park Forst-Chicago Heights School District 163. Chicago, IL. In Results with Reading Mastery (pp. 10-11). New York: McGraw-Hill.	no control group

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	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003). Portland Elementary School, Portland, AR. In Results with Reading Mastery (pp.12-13). New York: McGraw-Hill.	no adequate control group
	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003). Wilson Primary School, Phoenix, AZ. In Results with Reading Mastery (pp.6-7). New York: McGraw-Hill.	no adequate control group
	Association for Supervision and Curriculum Development and Council of Chief State School Officers (2003).Roland Park Elementary/Middle School. Baltimore, MD. In Results with Reading Mastery (pp12-13). New York: McGraw-Hill.	no control group
	Brent, G., DiObilda, N., & Gavin, F. (1986). Camden Direct Instruction Project, 1984-1985. *Urban Education, 21*, 138-148.	pretest equivalence not established/ documented
	Carlson, C. D., & Francis, D. J. (2002). Increasing the reading achievement of at-risk children through Direct Instruction: Evaluation of the Rodeo Institute for Teacher Excellence (RITE). *Journal of Education for Students Placed at Risk, 7*, 141-166.	insufficient information
	Di Obilda, N., & Brent, G. (1986). Direct Instruction in an urban school system. *Reading Instruction Journal, 29*, 2–5.	pretest differences > .5 SD
	Kamps, D., Abbott, M., Greenwood, C., Arreaga-Mayer, C., et al. (2007). Use of small-group reading instruction for English Language Learners in elementary grades: Secondary-tier intervention. Learning Disability Quarterly, 30(3), 153-168.	no adequate control group
	Marchand-Martella, N. E., Martella, R. C.,Kolts, R. L., Mitchell, D., & Mitchell, C. (2006). Effects of a three-tier strategic model of intensifying instruction using a research-based core reading program in grades K-3. *Journal of Direct Instruction, 6*, 49-72.	no control group

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	Ryder, R., Sekulski, J., & Silberg, A. (2003). Results of Direct Instruction reading program evaluation longitudinal results: First through third grade 2000-2003. Retrieved from http://74.125.45.104/search?q=cache:1AZ9Zlu8ykgJ:www.uwm.edu/News/PR/04.01/DI_Final_Report_2003.pdf+http://www.uwm.edu%3BNews/PR/04.01/DI_Final_Report_2003.pdf.&hl=en&ct=clnk&cd=1&gl=us	pretest equivalence not established/ documented
Literacy Collaborative	St. John, E., Manset, G., Chung, C., Simmons, A., & Musoba, G. (2000). Research-based reading interventions: The impact of Indiana's Early Literacy Grant Program. Bloomington: Indiana University, Indiana Education Policy Center, Smith Center for Research in Education (ERIC No ED447466).	no control group
	St. John, E., Manset, G., Chung, C., Simmons, A., Musoba, G., Manoil, K. et al. (2000). Research-based reading interventions: The impact of state-funded interventions on educational outcomes in urban elementary schools (Report No. 00-08). Bloomington: Indiana Education Policy Center.	no control group
	Clayburn, A. D. (2005). The effect of the primary Literacy Collaborative on the reading achievement of kindergarten, first grade, and second grade students. Dissertation Abstracts International, 66 (02A), 533. (UMI No. 3164981)	pretest equivalence not established/ documented
Project Read	Bompadre, C. (2002). *The effectiveness of systematic reading programs on the achievement of students in grades K-2.* Dissertation Abstracts International, 63 (3), 890A. (UMI No. 3045848).	pretest equivalence not established/ documented
	Cox, D.J. (1997). *The effectiveness of Project Read and visualization and verbalization reading comprehension strategies to improve reading comprehension in at-risk and learning disabled students.* Unpublished master's thesis, California State University, Fresno.	pretest differences > .5 SD
	Enfield, M. (1976). *An alternate classroom approach to meeting special learning needs of children with reading problems.* Unpublished masters thesis, University of Minnesota.	no control group

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	Project Read (1999). Longitudinal Project Read Study 1995-1999: Irwin-Schickler elementary School, Lapper, MI (Available from Project Read, Language Circle Enterprises Inc., 1620 W. 98th St., Suite 130, Bloomington, MN 55431)	no control group
	Stoner, J. (1991). Teaching at-risk students to read using specialized techniques in the regular classroom. *Reading and Writing, 3*(1), 19-30.	pretest equivalence not established/ documented
Spell Read P.A.T.	Rashotte, C., MacPhee, K., & Torgesen, J. (2001). The Effectiveness of a Group Reading Instruction Program with Poor Readers in Multiple Grades. *Learning Disability Quarterly, 24* (2), 119-134.	Duration < 12 weeks
Success for All	Atkinson, C. (1998). An analysis of the impact of "Success for All" on reading, attendance, and academic self-efficacy with at-risk elementary school students. Dissertation Abstracts International, 59 (10), 3699A. (UMI No. 9905180).	pretest equivalence not established/ documented
	Berends, M., Kirby, S., Naftel, S., & McKelvey, C. (2000). Implementation and performance in New American Schools: Three years into scale-up. Santa Monica, CA: RAND Education. (ERIC No. ED451204).	no adequate control group
	Bifulco, R. (2001). Do whole-school reform models boost student performance: Evidence from New York City. Dissertation Abstracts International, 62 (6), 1991A. (UMI No. 3019134).	no adequate control group - groups of third grade cohorts but pretest equivalence not established/ documented
	Chambers, B., Abrami, P., & Morrison, S. (2001). Can Success for All succeed in Canada? In R. Slavin & N. Madden (Eds.). Success for All: Research and reform in elementary education (pp. 93-109). Mahway, NJ: Erlbaum.	pretest equivalence not established/ documented
	Clarke, P.A. (2001). *Analysis of the Success for All and School Development Programs and Their Effects on Reading Comprehension.* Unpublished masters thesis, Kean University.	insufficient sample

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	Datnow, A., Borman, G., Stringfield, S., Overman, L., & Castellano, M. (2003). Comprehensive school reform in culturally and linguistically diverse contexts: Implementation and outcomes from a four-year study. *Educational Evaluation and Policy Analysis, 2*(2), 143-170.	pretest equivalence not established/ documented - program in place before pretests
	Greenlaw, M. (2004). A case study examining the relationships among teachers' perceptions of the Success for All reading program, teachers' sense of efficacy, students' attitudes toward reading and students' reading achievement. Dissertation Abstracts International, 65 (7) 2541A (UMI No. 3139431).	no control group
	Harris, A., Hopkins, D., & Wordsworth, J. (2001). The implementation and impact of Success for All in English schools. In R. Slavin & N. Madden (Eds.), Success for All: Research and Reform in elementary education (pp. 81-92). Mahwah, NJ: Erlbaum.	no control group.
	Hess, P. (2004). A study of teachers' selection and implementation of meta-cognitive reading strategies for fourth/fifth grade reading comprehension from a Success for All reading program perspective: Moving beyond the fundamentals. Unpublished doctoral dissertation, Univeristy of the Pacific Stockton, California.	no control group
	Hurley, E., Chamberlain, A., Slavin, R.E., & Madden, N.A. (2000). Effects of Success for All on TAAS reading: A Texas statewide evaluation (Report 51). Baltimore, MD: Johns Hopkins University, Center for Research on the Education of Students Placed At Risk.	inadequate control group
	Hurley, E., Chamberlain, A., Slavin, R.E., & Madden, N.A. (2001). Effects of Success for All on TAAS reading scores: A Texas statewide evaluation. Phi Delta Kappan, 82(10), 750-756.	inadequate control group
	James, L. (2003). The effect of the Success for All reading approach on fourth and fifth grade students standardized reading assessment scores. Dissertation Abstracts International, 63 (11), 3896A. (UMI No. 3072259).	pretest equivalence not established/ documented
	Massue, F. (1999). Effects of engaging in Success for All on children's causal attributions. Montreal, Quebec, Canada: Concordia University, Department f Education.	inadequate outcome measure

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	McCollum-Rogers, S. (2004). Comparing Direct Instruction and Success for All with a basal reading program in relation to student achievement. Dissertation Abstracts International, 65 (10), 3642A. (UMI No. 3149920).	pretest equivalence not established/ documented
	Pike, J., Butler, S., Grandjean, B. (2004). Comparing the effects of three reading programs on reading test scores. Laramie: WYSAC Technical Report No. SRC – 417.	pretest equivalence not established/ documented
	Ross, S., Nunnery, J., Goldfeder, E., McDonald, A., Rachor, R., Hornbeck, M. et al. (2004). Using school reform models to improve reading achievement: A longitudinal study of Direct Instruction and Success for All in an urban district. *Journal of Education for Students Placed at Risk, 9*(4), 357-388.	pretest equivalence not established/ documented
	Ross, S., Sanders, W., & Wright, S. (2000). Fourth year achievement results on the Tennessee Value Added Assessment System for restructuring schools in Memphis. Memphis, TN: University of Memphis, Center for Research in Educational Policy.	pretest equivalence not established/ documented - pretests given after program in place
	Schneider, F. (1999). Impact of the Success for All program in the teaching of reading for third grade students in selected elementary schools in the Pasadena Independent School District. Dissertation Abstracts International, 60 (6), 1965A. (UMI No. 9934489).	pretest equivalence not established/ documented - program began before pretest
	Slavin, R.E., & Madden, N.A. (1991). Success for All at Buckingham Elementary: Second year evaluation. Baltimore, MD: Johns Hopkins University, Center for Research on Effective Schooling for Disadvantaged Students.	insufficient information
	Slavin, R.E., & Yampolsky, R. (1991). Success For All: Effects on language minority students (Report 14). Baltimore, MD: Johns Hopkins University, Center for Research on the Education of Disadvantaged Students. (ERIC No. ED 331294)	pretest equivalence not established/ documented

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	Slavin, R.E., Leighton, M., & Yampolsky, R. (1990). Success for All: Effects on the achievement of limited English proficient children (Report No. 5). Baltimore, MD: The Johns Hopkins University Center for Research on Effective Schooling for Disadvantaged Students (ERIC No. ED331585).	pretest equivalence not established/ documented
	St. John, E., Manset, G., Chung, C., & Worthington, K. (2001). Assessing the rationales of educational reforms: A test of the professional development, comprehensive reform, and direct instruction hypothesis. Bloomington: Indiana University, Indiana Education Policy Center, Smith Center for Research in Education (ERIC No. ED458641).	no control group
	St. John, E., Manset, G., Chung, C., Simmons, A., & Musoba, G. (2000). Research-based reading interventions: The impact of Indiana's Early Literacy Grant Program. Bloomington: Indiana University, Indiana Education Policy Center, Smith Center for Research	no control group.
	Urdegar, S.M. (2000). Evaluation of the Success For All Program 1998-99. Miami, FL: Miami-Dade Public Schools, Office of Evaluation Research.	pretest equivalence not established/ documented
	Veals, C. (2002). The impact of the Success for All reading program on the reading performance of third grade students in two southwest Mississippi schools. Dissertation Abstracts International, 63 (4), 1291A. (UMI No. 3049586).	pretest equivalence not established/ documented - program began before pretest
	Wang, W., & Ross, S.M. (1999c). *Evaluation of Success for All Program, Little Rock School District, Year 2: 1998-99.* Memphis, TN: University of Memphis, Center for Research on Educational Policy.	pretest equivalence not established/ documented
Wilson Reading System	Edgerten, M.A. (2000). The effectiveness of a staff development program: Training teachers to use a code-based, explicit, and systematic reading intervention program. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill.	No control group

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	O'Connor, J. R., & Wilson, B. A. (1995). Effectiveness of the Wilson Reading System used in public school training. In C. McIntyre & J. Pickering (Eds.), *Clinical studies of multisensory structured language education* (pp. 247–254). Salem, OR: International Multisensory Structured Language Education Council.	No control group
	Wilson, B.A. & O'Connor, J.R. (1995). Effectiveness of the Wilson Reading System used in public school training. In McIntyre, C. and Pickering, J. (Eds.). *Clinical Studies of Multisensory Structured Language Education.* Salem, OR: International Multisensory Structured Language Education Council.	No control group

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Table 1
Upper Elementary Reading Curricula

Study	Design Large/Small	Duration	N	Grade	Sample Characteristics	Posttest	Effect Size by Subgroup/ Measure	Overall Effect Size
Core Basal Programs								
Open Court								
Borman, Dowling, & Schneck (2007)	Randomized (L)	1 year	5 schools 33 teachers (18E, 15C) 613 students	2-5	High-poverty schools in ID, FL, NC, TX. 77%FL, 73% minority, 11% ESL	Terra Nova Comprehension Composite Vocabulary	 +0.15 +0.15 +0.13	+0.15
Skindrud & Gersten, 2006	Matched (L)	2 years	Grade 2 cohort: 434 students (292 E, 142 C) Grade 3 cohort: 642 students (350 E, 292 C)	2-3, 3-4	High-poverty schools in Sacramento	SAT-9 Grade 2-3 cohort Grade 3-4 cohort	 +0.30 +0.10	+0.20
Reading Street								
Wilkerson, Shannon, & Herman (2006)	Randomized (L)	1 year	5 schools 32 teachers	2-3	3 middle class schools; 2 Title I, high poverty schools. 54% FL, 57%W, 25%AA, 11%H	Gates MacGinitie 2nd grade 3rd grade	 -0.10 -0.01	-0.06
Wilkerson, Shannon, & Herman (2007)	Randomized (L)	1 year	40 teachers 793 students (409E, 384C)	2-3	4 schools nationwide. 86%W, 8%H, 3%AA, 26% FL	Gates MacGinitie 2nd grade 3rd grade	 -0.14 +0.06	-0.04
Houghton Mifflin Reading								
Swartz & Johnson (2003)	Matched (L)	Cohort 1: 2 years Cohort 2: 1 year	10 schools (5E, 5C) 2 Cohorts: Cohort 1: 586 students (220E, 326C) Cohort 2 465 students (91E, 374C)	Cohort 1: Grades 2-3 Cohort 2: Grade 3	Mostly AA schools in Chicago. 94% FL, 76% AA, 16% W, 9% H.	ITBS Cohort 1 Reading Vocabulary Total Cohort 2 Reading Vocabulary Total	 -0.08 +0.38 +0.15 -0.04 +0.17 +0.07	+0.11
Harcourt Reading Program								
Conner, Greene, & Munroe (2004)	Matched (L)	1 year	63 schools (18 E, 45 C) 12,832 students (3,928 E, 8,904 C)	3-5	High-poverty schools in Philadephia	Terra Nova		+0.10

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Whole Language Basals								
Rigby								
Wilkerson (2004)	Matched (L)	32 weeks	13 classes in 4 schools (2 E, 2 C) 472 students (245 E, 227 C)	2 and 4	High-poverty schools. 80% FL, 57% AA, 29% H, 5% W.	Gates-MacGinitie		-0.26
						Second Graders		
						Word Decoding	+0.22	
						Word Knowledge	-0.07	
						Comprehension	-0.23	
						Total	-0.03	
						Fourth Graders		
						Vocabulary	-0.61	
						Comprehension	-0.33	
						Total	-0.48	
Supplementary Curricula								
Schoolwide Enrichment Reading Model								
Reis, Eckert, McCoach, Jacobs, & Coyne (2008)	Randomized (L)	14 weeks	31 teachers (17 E, 14 C) 544 students (306 E, 238 C)	3-5	2 middle-class schools in New England towns 36% FL, 64% W, 28% H, 3% AA, 3% Asian, 18% LEP	Oral Reading Fluency	+0.08	+0.12
						ITBS	+0.15	
Elements of Reading: Comprehension								
Resendez, Sridiharan, & Azin (2006)	Randomized (L)		18 teachers (10E, 8 C) 413 students (229E, 184C)	3	Schools in AZ, KY, VA, and OR. 69% FL, 36%W, 28% H, 20% AA, 6% Native American.	Gates-MacGinitie		+0.09
						Vocabulary	+0.21	
						Comprehension	+0.11	
						Total	+0.17	
						ERDA		
						Target Words in Context	+0.05	
						Narrative Passage Fluency	+0.03	
						Informational Passage Fluency	0.00	
						Reading Comprehension	+0.12	
Elements of Reading: Vocabulary								
Apthorp (2005a)	Randomized quasi-experiment (L)	1 year	7 schools 268 students (147E, 121C)	3	High-poverty schools in AL and NY. 83% FL, 49% AA, 46% W, 10% LEP	Gates-McGinitie		+0.10
						Vocabulary	+0.21	
						Comprehension	+0.10	
						ERDA Sight Vocabulary	0.00	
Elements of Reading: Fluency								
Apthorp (2005b)	Randomized quasi-experiment (S)	1 year	10 classes 184 students (97 E, 87 C)	2	Majority White high-poverty Title I schools 74% FL, 82% W, 12% AA, 4% H, 8% LEP	ERDA		+0.10
						Word Identification	0.00	
						Narrative Passage Fluency	+0.15	
						Informational Passage Fluency	+0.18	
						Gates McGinitie Comprehension	+0.05	

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Fluency Formula								
Sivin-Kachala & Bialo (2005)	Randomized quasi-experiment (S)	1 year	12 classes 128 students (66E, 62C)	2	Suburban districts in Long Island, NY. 20% FL, 7% LEP	Woodcock Passage Comprehension		-0.24
Jacob's Ladder								
Stambaugh (2007)	Matched (S)	12 weeks	2 schools	3-5	Rural high-poverty schools in OH. 27% FL	ITBS		+0.02
Contextually-Based Vocabulary Instruction								
Nelson & Stage (2007)	Randomized quasi-experiment (L)	3 months	16 classes (8E, 8C) 308 students (159E, 149C)	3, 5	Schools in midwestern district. 32% FL, 70%W, 24% H, 24% LEP	Gates-MacGinitie		+0.15
						Comprehension	+0.27	
						Vocabulary	+0.03	
QuickReads								
Huxley (2006)	Matched (S)	12 weeks	4 classes (2E, 2C) 61 students (35E, 26C)	3	High-poverty suburban school. 69% FL, 63% AA, 35% W	Gates-MacGinitie		+0.24
						Comprehension	+0.32	
						Rate	+0.30	
						Accuracy	+0.42	
						TOWRE		
						Sight Word	+0.13	
						Decoding	+0.12	

Note: L=large study with at least 250 students; S=small study with less than 250 students; E=Experimental; C=Control; SAT-9=Stanford Achievement Test 9th Edition; ITBS=Iowa Test of Basic Skills; ERDA=Early Reading Diagnostic Assessment, FL=Free/reduced-price lunch; W=White; AA=African American; H=Hispanic; LEP=Limited English Proficient.

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Table 2
Upper Elementary Technology Programs

Study	Design Large/Small	Duration	N	Grade	Sample Characteristics	Posttest	Effect Size by Subgroup/ Measure	Overall Effect Size
Supplemental CAI Programs								
Academy of Reading								
Campuzano et al. (2009)	Randomized (L)	1 year	41 teachers (22E, 19C) 899 students (495E, 404C)	4	Schools across the U.S. 65%FL, 54%AA, 29%H, 17%W	SAT-10		-0.01
LeapTrack								
Campuzano et al. (2009)	Randomized (L)	1 year	55 teachers (29E, 26C) 1274 students (665E, 609C)	4	Schools across the U.S. 61%FL, 57%AA, 33%W, 10%H	SAT-10		+0.09
Jostens (Earlier form of Compass Learning)								
Alifrangis (1991)	Randomized (S)	1 year	12 classes (6 E, 6 C)	4-6	School at an army base near Washington, D.C. 37% minority.	CTBS Reading		+0.15
						4th grade	+0.30	
						5th grade	+0.20	
						6th grade	-0.04	
Becker (1994)	Randomized (S)	1 year	1 school 187 students	2-5	Inner city Baltimore High poverty.	CAT		+0.09
Standish (1995)	Matched (S)	1 year	2 schools 139 students (56E, 83C)	2	Students in suburban DE	MAT 6 Reading Comprehension		+0.05
Estep (1997)	Matched post hoc (S)	4 years	106 schools (53E, 53C)	3	Elementary schools in IN	ISTEP		+0.03
						Reading Vocabulary	+0.03	
						Reading Total	+0.03	
Clariana (1994)	Matched post hoc (S)	1 year	85 students (47E, 38C)	3	School in a predominantly White, rural area.	CTBS		+0.20
Compass Learning								
Kadel Research Consulting (2006)	Matched post hoc (S)	2 years	138 students (69 E, 224 C)	4-5	Garfield Heights, OH 50% FL, 63% W, 24% H, 13% AA	OAT		+0.29
						1 year	-0.10	
						2 years	+0.29	
CCC Successmaker								
Campbell (2000)	Matched (L)	1 year	13 schools (7 E, 6 C) 701 students (310E, 391C)	4-5	Middle class students in Etowah, AL	SAT		-0.02
						Comprehension	-0.09	
						Vocabulary	+0.04	

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Ragosta (1983)	Matched (L)	3 years	6 schools (4E, 2C) Eight 1-year cohorts Three 2-year cohorts One 3-year cohort	4-6	High poverty schools in Los Angeles	CTBS		
						One year		+0.17
						Comprehension	+0.23	
						Vocabulary	+0.25	
						Two years		
						Comprehension	-0.01	
						Vocabulary	+0.17	
						Three years		
						Comprehension	-0.24	
						Vocabulary	+0.58	
Saracho (1982)	Matched (L)	1 year	256 students (128E, 128C)	3-6	Spanish-speaking migrant students	CTBS Reading		-0.09
						3rd	-0.04	
						4th	-0.25	
						5th	+0.16	
						6th	-0.17	
Classworks Gold								
Whitaker (2005)	Matched post hoc (S)	1 year	2 schools, 218 students	4,5	Schools in rural Tennessee, 62% Low SES.	TCAP		-0.14
						4	-0.10	
						5	-0.19	
My Reading Coach								
Vaughan, Serido, & Wilhelm (2006)	Randomized (L)	1 year	4 schools 284 students (127E, 157C)	2-4	Predominately minority students from 4 schools in 3 states; 27% ELLs, 36% AA. 36% H, 22% W	GRADE		+0.24
						Vocabulary	+0.24	
						Comprehension	+0.22	
WICAT								
Miller (1997)	Matched post hoc (L)	3 years	30 schools (10E, 20C)	3-5	New York City Public Schools, almost all AA or Hispanic, 1/6 ESL	DRP		+0.02
Clayton (1992)	Matched post hoc (L)	1 year	5 schools (1E, 4C) 426 students (181E, 245C)	2-5	Schools in northwest SC. 46% FL, 59%W, 39% AA	CTBS		-0.01
Mys & Petrie (1988)	Matched post hoc (L)	3 years	4 schools (1E, 3C) 257 students (81E, 176C)	2-4	Schools in Dearborn, MI	ITBS		-0.15

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Open Book to Literacy								
Williams (2005)	Matched (S)	1 year	2 schools (1E, 1C) 127 students (66E, 61C)	4	High-poverty schools in Memphis, 51% W, 24% H, 21% AA	TORC		+0.28
Other Supplemental CAI								
Becker (1994)	Randomized (S)	1 year	9 classes 199 students	2-5	Schools in inner city Baltimore. 50% FL, 99% AA	CAT		+0.06
Easterling (1982) (MicroSystem 80)	Randomized (S)	4 months	2 schools 42 students (21E, 21C)	5	Schools in suburban school district	CAT Reading Comprehension		+0.05
Schmidt (1991) (Wasatch ILS)	Matched (L)	1 year	4 schools (2E, 2C) 1,224 students (646E, 578C)	2-6	Schools in Southern CA. 25% FL	CTBS		+0.04
Cooperman (1985)	Matched (L)	1 year	3 schools (1E, 2C) 470 students (204E, 266 C)	2-4	Students from 3 low to middle class schools. 86% W, 13% AA	CAT		-0.06
Bryg (1984)	Matched (S)	15 weeks	9 teachers (5E, 4C) 152 students (83E, 69C)	4	Schools in Omaha, NE	CAT Reading Comprehension		+0.20
Roth & Beck (1987)	Matched (S)	1 year	6 classes (3E, 3C) 108 students (59E, 49C)	4	High-poverty low-achieving urban schools. 100% AA.	Woodcock Word Attack CAT Vocabulary CAT Reading Comprehension	+0.60 +0.53 0.00	+0.38
Coomes (1985)	Matched (S)	1 year	4 schools 102 students (51E, 51C)	4	Middle class schools in TX. 90% W.	CTBS		+0.02
Hoffman (1984)	Matched (S)	1 year	3 schools 96 students (51E, 45C)	3	Schools in suburban midwest. 11% minority	Gates MacGinitie Comprehension Vocabulary	 -0.04 -0.10	-0.07
Levy (1985)	Matched post hoc (L)	1 year	4 schools 581 students (293E, 288C)	5	Suburban NY school district	SAT		+0.19

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Computer-Managed Learning Systems								
Accelerated Reader								
Knox (1996)	Randomized (S)	3 months	77 students (40E, 37C)	3-4	Low SES students in a southeastern state. 72% FL, 79% W, 13% AA, 8%H.	DRS Reading Vocab	+0.25	-0.03
						DRS Reading Comp	-0.13	
						SAT Reading Vocab	-0.07	
						SAT Reading Comp	-0.17	
Yee (2007)	Matched (L)	1 year	3 schools (1E, 2C) 2072 students (612E, 1460C)	2-5	Majority-Hispanic schools in Los Angeles Co. 92% FL, 79% H, 17% AA, 61% ELL	CST		+0.06
Innovative Technology Applications								
Fast ForWord								
Marion (2004)	Matched (L)	1 year	349 students (215E, 134C)	5-6	Schools in Appalachian TN. 52% FL, 100% W	Terra Nova		+0.25
Scientific Learning (2006)	Matched (S)	15 weeks	142 students (55E, 87C)	5-6	Middle class schools in Northwest OH	Gates MacGinitie		+0.11
						Comprehension	+0.12	
						Vocabulary	+0.11	
Lightspan								
Birch (2002)	Matched post hoc (S)	2 years	101 students (50E, 51C)	2,3	Schools in the Caesar Rodney School District in DE	SAT		+0.42
						Vocabulary	+0.59	
						Comprehension	+0.25	

Note: L=large study with at least 250 students; S=small study with less than 250 students; E=Experimental; C=Control; CTBS=Comprehensive Test of Basic Skills; CAT=California Achievement Test; CST= California Standards Test; MAT=Metropolitan Achievement Test; ITBS=Iowa Test of Basic Skills; ISTEP=Indiana Statewide Testing for Educational Progress; OAT=Ohio Achievement Test; TCAP=Tennessee Comprehensive Assessment Program; GRADE=Group Reading Assessment and Diagnostic Examination; DRP=Degrees of Reading Power; WRAT=Wide Range Achievement Test; SAT=Scholastic Achievement Test; DRS=Diagnostic Reading Scales; FL=Free/reduced price lunch; W= White, AA= African American, H= Hispanic, ELL=English language learners; LEP= Limited English Proficient

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Table 3
Upper Elementary Instructional Process Programs

Study	Design Large/Small	Duration	N	Grade	Sample Characteristics	Posttest	Effect Size by Subgroup/Measure	Overall Effect Size
Cooperative Learning								
Cooperative Integrated Reading and Composition (CIRC)								
Stevens and Slavin (1995a)	Matched (L)	2 years	7 schools (3E, 4C) 63 classes (31E, 32C) 1299 students (635E, 664C)	2-6	Mostly White students in working-class suburb of Baltimore. 9%FL, 95%W.	CAT		+0.23
						Vocabulary	+0.20	
						Comprehension	+0.26	
Stevens & Slavin (1995b)	Matched (L)	2 years	5 schools (2E, 3C) 45 classes (21E, 24C) 873 students (411E, 462C)	2-6	Suburban district in Maryland 10% FL, 93%W.	CAT		+0.25
						Comprehension	+0.28	
						Vocabulary	+0.21	
Jenkins et al. (1994)	Matched (L)	1 year	2 schools 860 students (332 E, 528 C)	1-6	Mount Vernon, Washington 36% FL	MAT		+0.18
						Comprehension	+0.09	
						Vocabulary	+0.31	
Stevens, Madden, Slavin, & Farnish (1987; Study 1)	Matched (L)	12 weeks	10 schools (6E, 4C) 21 classes (11E, 10C)	3-4	Middle-class suburb of Baltimore. 4% FL. 84% W, 16% AA.	CAT		+0.18
						Comprehension	+0.19	
						Vocabulary	+0.17	
Stevens, Madden, Slavin, & Farnish (1987; Study 2)	Matched (L)	6 months	9 schools (4E, 5C) 22 classes (9E, 13C) 450 students	3-4	Middle-class suburb of Baltimore. 18% FL. 78% W, 22% AA.	CAT		+0.45
						Comprehension	+0.35	
						Vocabulary	+0.11	
						Total	+0.23	
						Durrell	+0.54	
Bramlett (1994)	Matched (L)	1 year	8 schools (9 C, 9 E) 18 classes 392 students (198E, 194C)	3	Rural southern Ohio	CAT		+0.08
						Comprehension	+0.10	
						Total Reading	+0.07	
						Word Analysis	+0.10	
						Vocabulary	+0.03	

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Rapp (1991)	Matched (S)	1 year	2 schools (1 E, 1 C) 88 students (43 E, 45 C)	3	Working-class schools in Lewistown, ID	ITBS		+0.14
						Comprehension	+0.09	
						Vocabulary	+0.18	
Calderon, Hertz-Lazarowitz, & Slavin (1998)	Matched (S)	2 years	7 schools (3E, 4C) Year 1: 84 students (51E, 33C) Year 2: 59 students (26E, 33C)	2 and 3	Spanish-dominant students transitioning to English in high-poverty schools near the Mexican border in Texas. 79% H.	STAAS 2nd graders	+0.30	+0.87
						NAPT 3rd graders		
						1 year	+0.62	
						2 years	+0.87	
Skeans (1991)	Matched post hoc (L)	19 months	630 students (348 E, 282 C)	3 and 5	Suburban district near Houston	MAT: 3rd grade		-0.03
						Vocabulary	+0.20	
						Comprehension	+0.08	
						MAT: 5th grade		
						Vocabulary	-0.15	
						Comprehension	-0.24	
Reader's Theater								
Carrick (2000)	Matched (S)	14 weeks	98 students (53E, 45C)	5	Urban New Jersey. 80% FL, 85% AA, 11% H.	Compared to control		+0.29
						Terra Nova	+0.22	
						Oral Reading	+0.50	
						Compared to paired reading		
						Terra Nova	+0.12	
						Oral Reading	+0.30	
Same-Age Tutoring Programs								
PALS								
Fuchs, Fuchs, Kazdan, & Allen (1999).	Randomized quasi-experiment (S)	21 weeks	45 students 15 students each in PALS, PALS-HG (PALS + tutoring strategies), or control	2-3	Students in a southeastern city. 24% FL, 62% W, 38% AA.	SDRT Reading Comprehension		+0.36
						PALS	+0.72	
						PALS HG	0.00	

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Same-Age Tutoring + Strategy Instruction								
Van Keer & Verhaeghe (2005)	Matched (L)	1 year	Second graders: 11 classes (5E, 6C) 215 students (91E, 124C) Fifth graders: 10 classes (4E, 6C) 208 students (101E, 107C)	2, 5	Middle class schools in Flanders, Belgium	Dutch Reading Comprehension Test		+0.29
						2nd graders	+0.17	
						5th graders	+0.40	
Van Keer & Verhaeghe (2008)	Matched (L)	1 year	Second graders: 12 classes (6E, 6C) 234 students (110E, 124C) Fifth graders: 15 classes (9E, 6C) 293 students (186E, 107C)	2, 5	Middle class schools in Flanders, Belgium	Dutch Reading Comprehension Test		+0.24
						2nd graders	+0.26	
						5th graders	+0.21	
Cross-Age Tutoring Programs								
Reading Together								
Policy Studies Associates (2007)	Randomized (S)	1 year	124 students (56E, 68C)	2	School in Irving, TX	Terra Nova		-0.01
Cross-Age Tutoring								
Hilger (2000)	Matched (S)	1 year	1 school 72 students (47 E, 35 C)	3	High-poverty school. 78% FL; 34%AA, 34% Asian, 26% W, 5% H.	STAR	+0.16	+0.37
						Fluency	+0.58	

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Cross-Age Tutoring + Strategy								
Van Keer & Verhaeghe (2005)	Matched (L)	1 year	Second graders: 9 classes (3E, 6C) 190 students (66E, 124C) Fifth graders: 10 classes (4E, 6C) 276 students (169E, 107C)	2, 5	Middle class schools in Flanders, Belgium	Dutch Reading Comprehension Test 2nd graders 5th graders	 +0.22 +0.32	+0.27
Van Keer & Verhaeghe (2008)	Matched (L)	1 year	Second graders: 14 classes (8E, 6C) 286 students (162E, 124C) Fifth graders: 13 classes (7E, 6C) 263 students (156E, 107C)	2, 5	Middle class schools in Flanders, Belgium	Dutch Reading Comprehension Test Second graders Fifth graders	 +0.42 +0.28	+0.35
Strategy Instruction								
Reciprocal Teaching								
Spörer, Brunstein, & Kiesche (2009)	Randomized (S)	19 weeks	210 students (42RT, 60RT in Pairs, 42 Strategy Instuction, 60 Control)	3-6	Middle class schools in Germany	RT vs. Control RT vs RTP RT vs. Strategy	+0.65 +0.36 +0.60	+0.65

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Belgian Strategy Model								
Van Keer & Verhaeghe (2005)	Matched (L)	1 year	Second graders: 14 classes (8E, 6C) 287 students (163E, 124C) Fifth graders: 14 classes (8E, 6C) 284 students (177E, 107C)	2, 5	Middle class schools in Flanders, Belgium	Dutch Reading Comprehension Test Second graders Fifth graders	 +0.24 +0.35	+0.30
Thinking Maps								
Leary (1999)	Matched (S)	1 year	2 schools (1E, 1C) 78 students (41E, 37C)	4	High-poverty schools in southeastern Virginia, 79% FL; 69% AA, 31% W.	SAT-9		+0.31
Hickie (2006)	Matched post hoc (S)	2 years	2 schools (1E, 1C) 54 students (24E, 30C)	4-5	High-poverty white schools in northeastern Tennesse, 91% FL	TCAP		+0.70
Foundations and Frameworks								
Blackmon (2008)	Matched (S)	1 year	5 schools (3E, 2C) 103 students (52E, 51C)	4-5	Philadelphia Christian schools, mostly AA, H.	Gates MacGinitie Comprehension Vocabulary	 -0.08 +0.04	-0.02
Fluency Instruction								
FORI								
Kuhn et al (2006)	Randomized Quasi-experiment (s)	1 year	5 schools (3E, 2C) 227 students (143E, 84C)	2	High poverty schools in New Jersey and Georgia. 58% FL, 51% AA, 23% W, 21% H, 5% Asian	TOWRE GORT - 4 WIAT	+0.29 +0.10 +0.18	+0.19

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Structured Phonetic Intervention Programs								
Exemplary Center for Reading Instruction (ECRI)								
Reid (1996)	Matched post hoc (L)	1 year	5 schools (4E, 1C) 921 students (590E, 331C)	2-6	High-poverty White schools in eastern Tennessee. 99% W.	SAT		+0.65
						Comprehension	+0.71	
						Vocabulary	+0.59	
Cohen (1991)	Matched post hoc (L)	1 year	473 students (242E, 231C)	3	Urban school district 45% AA, 34% W, 21% H.	ITBS		+0.14
						Comprehension	+0.07	
						Vocabulary	+0.21	
Phonics-Based Professional Development								
Language Essentials for Teachers of Reading and Spelling (LETRS)								
Garet et al. (2008)	Randomized (L)	1 year	90 schools 5530 students (1983 LETRS, 1738 LETRS + Coaching, 1809 C)	2	6 urban districts. 78% FL, 78%AA, 15%W, 5%H.	Various state assessments		+0.06
						LETRS	+0.08	
						LETRS + Coaching	+0.03	
Integrated Language Arts Programs								
Literature-Based Program								
Morrow (1992)	Randomized quasi-experiment (S)	1 year	9 classes 166 students (56 LBP + parents, 46 LBP only, 64C)	2	Students in two suburban schools in New Jersey, 24% FL, 43% AA, 37% White, 14% Asian	CAT		+0.21
						School + home	+0.21	
						School only	+0.20	
Success in Reading and Writing								
Lindsey (1988)	Matched (S)	1 year	2 schools (1E, 1C) 97 students (56E, 41C)	2-3	Elementary schools in the Pacific Northwest	CAT		-0.11
						Comprehension	-0.23	
						Vocabulary	+0.01	

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Carbo Reading Styles								
Oglesby & Suter (1995)	Matched (S)	1 year	13 classes (6 E, 7 C) 198 students (105 E, 93 C)	3 and 6	Urban, mostly AA school in the mid-south. 80% AA, 20% W, 81% remedial.	Gates MacGinitie		+0.27
Classroom Management and Motivation Programs								
Consistency Management-Cooperative Discipline (CMCD)								
Freiberg, Prokosch, Treiser, & Stein (1990)	Matched post hoc (L)	2 years	10 schools (5E, 5C) 699 students (364E, 335C)	2-5	High-poverty schools in Houston, 72% FL, 90% AA	MAT-6 (grades 2-5)	+0.09	+0.12
						TEAMS (grades 3 and 5)	+0.14	
Opuni (2006)	Matched post hoc (L)	1 year	14 schools (7E, 7C) 456 students (228E, 228C)	3	High-poverty schools in Newark, NJ, 78% FL, 90% AA.	SAT-9		+0.26
Student Success Skills								
Campbell and Brigman (2005)	Randomized (L)	6 months	20 schools 480 students (240E, 240C)	5 -6	Low-achieving students in Florida. 62% FL, 82% W, 9% AA, 5% H.	FCAT		+0.23
Responsive Classroom								
Rimm-Kaufman, Fan, Chiu, & You (2007)	Matched post hoc (L)	3 years	6 schools (3E, 3T) 3 groups: grades 2-5 381 students (211E, 170C) grades 3-5 502 students (282E, 220C) grades 4-5 506 students (266E, 240C)	2-5	Schools in a northeastern urban district, 35% FL, 57% W, 22% AA, 21% H.	DRP		+0.15
						Grades 2-5	+0.21	
						Grades 3-5	+0.16	
						Grades 4-5	+0.07	

Note: L=large study with at least 250 students; S=small study with less than 250 students; E=Experimental; C=Control; CAT=California Achievement Test; MAT=Metropolitan Achievement Test; ITBS=Iowa Tests of Basic Skills; STAAS=Texas Assessment of Academic Skills-Spanish; NAPT-Norm-Referenced Assessment Program for Texas; SDRT=Stanford Diagnostic Reading Test; SAT=Stanford Achievement Test; TCAP=Tennessee Comprehensive Assessment Program; PALS=Peer-Assisted Learning Strategies; PALS-HG=Peer-Assisted Learning Strategies with Help-Giving Training; TOWRE=Test of Word Reading Efficiency; GORT=Gray Oral Reading Test; GRADE=Group Reading Assessment and Diagnostic Examination; STAR=Standardized Test for Assessment of Reading; WIAT= Wechsler Individaul Achievement Test;TEAMS=Texas State Assessment of Academic Skills; SAT=Scholastic Achievement Test; DRP=Degrees of Reading Power; FCAT=Florida's Comprehensive Assessment Test. FL= Free/Reduced lunch, W=White, AA=African American, H=Hispanic, CTBS=Comprehensive Test of Basic Skills.